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## Original Articles

### THE UTILIZATION OF THE BROAD LIGAMENTS IN COMPLETE DESCENT OF THE UTERUS. HYSTEROMYOMECTOMY AND REMOVAL OF UTERINE APPENDAGES.*


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#### END-TO-END APPROXIMATION OF THE BROAD LIGAMENTS IN A NEW OPERATION FOR COMPLETE DESCENT WITHOUT REMOVAL OF THE UTERUS.

In place of vaginal hysterectomy and other operations so often performed for complete descent of the uterus, I propose a new operation, the essential factor of which is the utilization of the broad ligaments as supports of the pelvic floor without removal of the uterus, but before entering on a description of this operation it may be well to outline briefly the mechanism of complete descent and to set forth some of the reasons why the older operations frequently have proved inadequate. In so doing I shall draw freely on my own writings without giving further credit.

I desire at the outset to disclaim any proposition that the uterus is supported and held in place by ligaments alone; it is supported by the whole pelvic floor, of which it is a part. In saying that the broad ligaments are utilized, I mean always that these ligaments and their adjacent structures are utilized.

*Mechanism of Descent.*—The uterus in its normal position lies transversely across the pelvis, the fundus pointing in a slightly upward anterior direction and the cervix in a slightly downward posterior direction. The long axis of the uterus in this normal direction makes an acute angle with the long axis of the vagina which extends obliquely, not vertically, from the vulva upward and backward in the direction of the hollow of the sacrum. Accordingly, mobile anteversion with some degree of anteflexion is the normal position of the uterus; at any rate, the uterus in its normal range of movements does not deviate, unless temporarily, beyond the limits of a certain normal anteversion and anteflexion.

The practical significance of this acute angle between the axis of the uterus and vagina in the etiology and treatment of descent is very great because the uterus in the act of prolapse usually descends through the vaginal canal in the direction of that canal, i. e., a coincidence of the two axes is a prerequisite to descent. Since an essential condition of descent is a coincidence of the two axes, it follows that one factor at least in the treatment of descent must be to restore the normal angle between the axes.

The mechanism of descent also has an important bearing on the treatment and, therefore, may be mentioned in detail as follows. In labor the anterior wall of the vagina is so depressed, stretched and shortened by the advancing child that during and after the second stage the anterior lip of the cervix uteri may be seen behind the urethra. This location of the cervix, so close to the anterior wall of the pelvis, necessarily involves great stretching of the uterosacral supports which normally hold the cervix uteri and, together with it, the upper extremity of the vagina close to the hollow of the sacrum. This function of the postuterine ligaments having been temporarily impaired, the upper extremity of the vagina is displaced forward so that after delivery the uterus having sufficient space between itself and the sacrum, instead of maintaining its normal anterior position, may fall backward into retroversion and thereby bring its own axis into line with the direction of the vagina.

If the puerperium progress favorably with prompt involution of the pelvic organs and if the relaxed vesicovaginal wall and other parts of the pelvic floor, especially the uterosacral supports and the broad and round ligaments, recover their normal tone, then the whole pelvic floor, including the uterus, resumes its normal relations. But if the enlarged heavy uterus remain in the long axis of the vagina, and especially if the fundus uteri be incarcerated under the promontory of the sacrum with the sacral supports stretched so much and for so long a time that they can not recover their contractile power, and if normal involution of the pelvic organs be arrested, then the descent may not only persist, but may progress with constantly increasing cystocele and rectocele until the entire uterus has extruded through the vulva.

It is most important to remember that complete prolapse of the uterus is only an incident to prolapse of the pelvic floor. The whole mechanism is that of hernia and the condition is hernia for the extruded hernial mass drags after it a peritoneal sac which, hernia-like, contains small intestine. This sac forces its way to the pelvic outlet and extrudes through the vulva, having the inverted vagina for a covering.

The above mechanism would suggest at once shortening of the uterosacral ligaments to draw the cervix uteri back to its normal location near the hollow of the sacrum and shortening the round ligaments to draw the corpus forward so as to restore the normal direction of the uterine axis. These procedures might be curative in cases of retroversion or retroflexion without great descent, but when not only the uterus, but also the whole pelvic floor, are in extreme downward hernial displacement the uterosacral and round ligaments, even though shortened, do not have sufficient power to give permanent support. The strain on them is so great that they are

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at Boston, June, 1906.

apt to stretch out and permit the descent to recur. Adequate sustaining power under the uterus is now essential. Shortening the uterosacral and round ligaments, however, may in some cases be indicated as a supplementary operation.

Frequently the change in the direction of the vagina from the normal oblique to the abnormal vertical is still further increased by injury to the vaginal outlet; the perineum may be torn in any direction and, what is more serious, it may be torn away from its pubic attachments, and in this way may be displaced backward toward the tip of the coccyx; in fact, such displacement is so common as a result of injuries to the perineum as to suggest the propriety of a change in the terminology from laceration to displacement of the perineum. The upper extremity of the vagina being displaced forward and the lower extremity backward, and the direction of the overstretched, dilated vagina now being vertical, the heavy uterus, having its long axis in the same direction as that of the vagina, has all the conditions favorable to progressive descent.

It is clearly most important to appreciate the fact that, since in nearly every case of procidentia the lower extremity of the vagina is displaced backward, with associated subinvolution of the pelvic floor and especially subinvolution or rupture of the perineum or of some other portion of the vaginal outlet, therefore the posterior wall of the vaginal outlet and the perineum must be brought forward to their normal location under the pubes, so as to give support to the anterior vaginal wall; otherwise, whatever the operation on the vaginal walls and broad ligaments, the vagina will fall again, will drag the uterus after it, and the hernial protrusion (cystocele, rectocele and prolapse) will be reproduced.

The treatment, therefore, of procidentia must always include an adequate operation on the perineum, or, more comprehensively speaking, on the posterior wall of the vaginal outlet. The operation must be performed so that it will carry the lower extremity of the vagina forward to the normal location close under the pubes; for in no other way can the normal oblique direction of the vagina be secured.

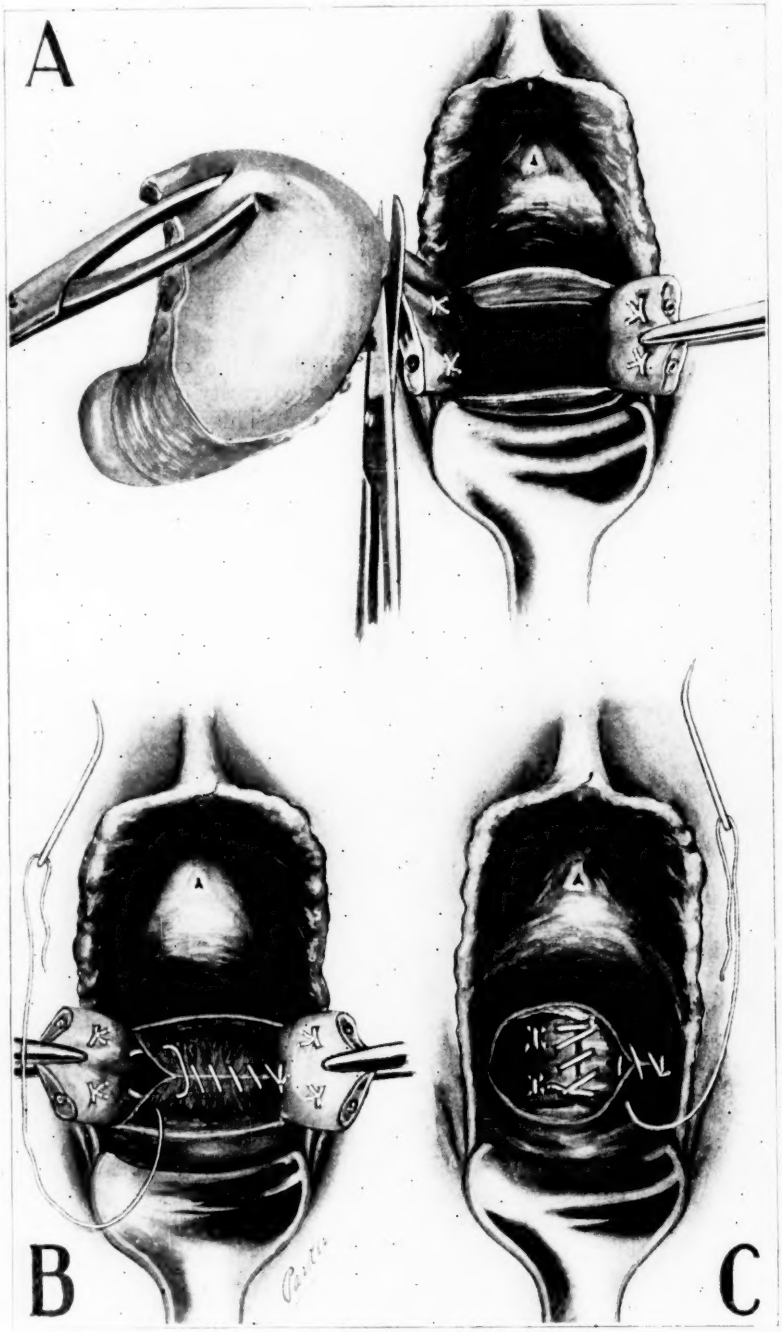


Fig. 1.—VAGINAL HYSTERECTOMY. A. Incisions have been made from the posterior vaginal fornix to the cul-de-sac of Douglas and from the anterior vaginal fornix to the utero-vesical cul-de-sac. The uterine and ovarian arteries in both ligaments have been securely ligated. The left ligament has been cut away from the uterus and is drawn to the vulva and held by forceps. The uterus has been drawn through the vulva and is hanging by a shred to the right ligament from which it is being cut away. The wound made by the removal of the uterus with its peritoneal and vaginal margins shows between the ligaments.

B. The last stitch of a continuous catgut suture is being taken to unite the peritoneal margins of the wound. The line of suture thus made runs from one ligament to the other and at either end includes the ligament. Closure of the peritoneum as here shown is nearly complete.

C. The ends of the broad ligament are shown to be united in front of the peritoneum by means of a continuous catgut suture. Another suture is closing the vaginal margins of the wound by a line of union running across the upper end of the vagina from side to side. When this suture is complete the united broad ligaments will lie between peritoneum and vaginal wall, and must necessarily sustain the rectum, vagina and bladder on the health level

*Reasons for Failure of the Older Operations.* — In passing it may be well to mention, for the purpose of condemning it, an operation perhaps more frequently performed than any other for the cure of complete descent, namely, the operation which generally passes under the name of Stoltz. This operation is designed to narrow the vagina, and thus to maintain the uterus somewhere in the pelvis above the constriction. Operations of this class usually consist of the removal of an elliptical piece from the anterior or posterior vaginal wall, or from both, and closing the exposed surfaces by means of purse-string sutures. No effort is made to restore the normal axes of the uterus and vagina. The whole purpose is to make the vagina so narrow that the uterus can not pass through it. Such operations gen-

easily fail, because they leave the uterus and vagina in the same axis and because the restricted vagina can not resist the downward force of the uterus, which almost invariably dilates the vagina a second time and forces its way through with reproduction of the hernia. Moreover, the operation always does permanent harm, because it shortens the vagina, thereby making it draw the cervix away from the sacrum toward the pubes so that the body of the uterus may have room to fall backward to the position of incurable retroversion. We may without discussion perhaps throw out all operations belonging to the Stoltz group. The same may be said of all plastic operations in which the vaginal surfaces are exposed by superficial denudation and brought together by sutures, even though some of these operations are correct in principle so far as they aim to force the cervix uteri backward into the hollow of the sacrum.

The older plastic operations of elytrorrhaphy having been followed so frequently by partial or complete recurrence of the descent, many operators, especially in women who have passed the menopause, substitute the mutilating operation of vaginal hysterectomy for the unsatisfactory operations of superficial elytrorrhaphy. Complete prolapse, being hernia, should be treated, as pointed out by Reynolds and others, according to the established principles of herniotomy by reducing it and then excising the sac in such a way as to expose strong fascial surfaces which should be firmly united by sutures. The absurdity of treating any other hernia by superficial denudation and reefing or tucking in the surfaces by sewing them together must be apparent to anyone.

An efficient operation on the vaginal walls should have for its object, not narrowing the vagina, but restoring the normal direction of it with a double purpose; first, so that the upper extremity, together with the cervix uteri, shall be in its normal location within an inch of the second and third vertebræ, just where the uterosacral ligaments would hold it if their normal tonicity and integrity could be restored; and, second, so that the lower extremity of the vagina shall be brought forward against the pubes. The fulfillment of these two indications by restoring the normal obliquity of the vagina will hold the cervix uteri so far back toward the sacrum that the corpus uteri must be directed forward in its normal anterior position of mobile equilibrium. With these conditions secured, the uterus being at an acute angle with the vagina and having little space posteriorly, can not retrovert and turn the necessary corner which would permit it to prolapse in the direction of the vaginal outlet. To accomplish this, perineorrhaphy already has been declared necessary as a means of forcing the lower end of the vagina toward the pubes.

Before describing the proposed operation I would repeat the fact that the various plastic operations on the vaginal walls (elytrorrhaphy) have proved so unsatisfactory that many surgeons are inclined to abandon them and to adopt the radical measure of vaginal hysterectomy in their place. This operation, however, if performed by the familiar method of ligating the broad ligaments, cutting them from the uterus, and then letting them retract to the sides of the pelvis is inadequate because the ligaments thus retracted can not perform their functions of holding up the pelvic floor; consequently many hysterectomies performed in this way have been followed by a continuance of the downward displacement of the rectum, vagina and bladder, a condition not materially improved by the mere absence of the uterus. In order to utilize the normal supporting power of the ligaments, I devised and in 1902 published an operation by which the severed ligaments were approximated end to end between the peritoneal and vaginal sides of the wound made by the removal of the uterus. I again present the operation unmodified, because I desire to make use of this principle of end-to-end approximation in the new procedure for the surgical treatment of complete descent of the uterus, a description of which will follow. Figure 1 will serve to illustrate the treatment of the broad ligaments by end-to-end approximation in vaginal hysterectomy.

*Proposed Operation on the Broad Ligaments and Excision of the Cystocele.*—To appreciate the part which the broad ligaments properly may have in a correct operation, it is only necessary to observe the fact that vaginal hysterectomy as above described results in holding up the pelvic floor and with it the rectum, vagina and bladder, because in this operation the broad ligaments are fixed to the vaginal wound. Since the condition of procidentia is hernia not alone of the uterus, but of the rectum, vagina and bladder as well, let us try to hold up the pelvic floor, including the uterus, by similar means, even though the uterus be not removed.

Following the suggestion of Emmet Sims, Reynolds and others who have striven to draw structures in the neighborhood of the lower margins of the ligaments in front of the cervix for the purpose of forcing it back, I found myself stripping the structures more and more from the sides of the uterus and drawing them in front of it, but not until I actually severed a considerable portion of each ligament from the sides of the uterus did I secure the best results. In future operations I shall emphasize that part of the procedure as shown in the drawings more than I have done yet. Figures 2, 3, 4, 5, 6, 7, 8, 9 and 10, with their legends, will illustrate the proposed method of holding up not only the uterus, but also the rectum, vagina and bladder by end-to-end approximation of the broad ligaments and adequate excision of the cystocele, without removal of the uterus.

In addition to approximation of ligaments, it must be borne in mind that other supporting structures also are brought together in front of the cervix uteri, notably the adjacent parametric structures, and if the operation is sufficiently extensive, the round ligaments. In extreme cases it would be well to separate the bladder entirely from the cervix uteri, as would be done in vaginal section, so as to expose the round ligaments. These ligaments then could be brought down in front of the cervix and included in the sutures which are used to approximate the cut ends of the broad ligaments. Such adjustment of the broad and round ligaments, together with the adjacent parametria in front of the cervix, necessarily would give great strength to the pelvic floor.

The question frequently has been asked whether in cutting away the lower halves of the broad ligaments troublesome hemorrhage is not encountered. I should fear such hemorrhage if the ligaments were severed with the uterus in its normal location, but would not fear it with the uterus outside the body. Besides, since a shaving is removed from each side of the uterus, the incision usually would be safely inside the utero-ovarian anastomosis. At any rate, the uterus being outside the body, hemorrhage could be controlled easily if it did occur.

I ask a trial for this operation, in the hope that it will prove more effective than the more superficial elytrorrhaphy, which, in a degree, has been unsatisfactory. At least, it will be less mutilating than the alternative operation, vaginal hysterectomy. (See Figs. 2-10.)

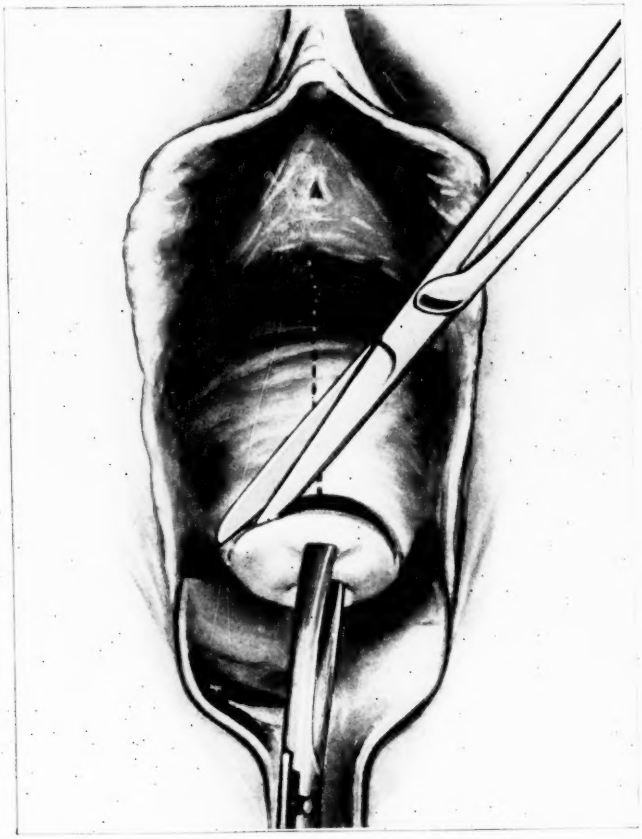

Fig. 2.—Broad Ligament Operation for Complete Descent of the Uterus.—Cervix held steady by flat vulsellum forceps. The bladder lies in front of the prolapsed uterus. The dotted line extending in the median direction on the anterior wall of the cervix from a point at the uterovaginal attachment to the urethrovaginal wall, mark (Figure 4) the direction of an incision to be made by means of sharp pointed scissors through the vaginal layer of the vesicovaginal septum. The incision extending around the anterior half of the cervix at the uterovaginal attachment is made through the vaginal wall to, but not into uterine tissue.

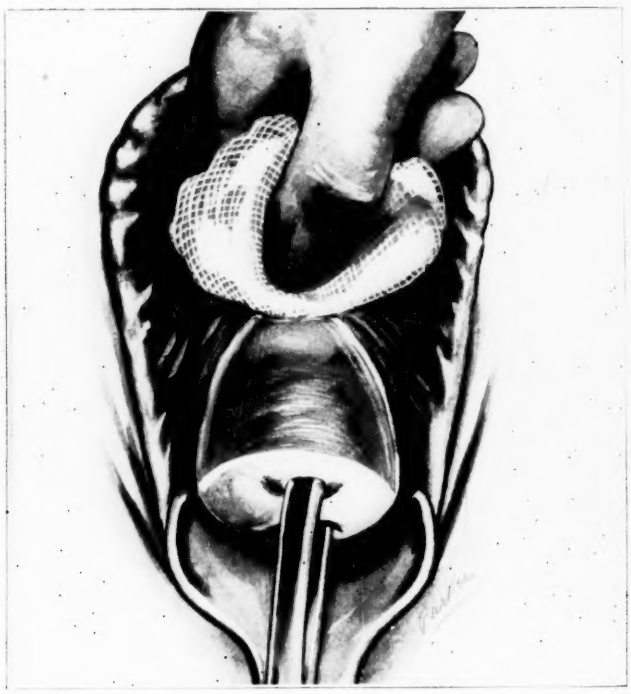

Fig. 3.—Broad Ligament Operation for Complete Descent of the Uterus.—Bladder being stripped from uterus by blunt dissection, which is accomplished readily and quickly by sponge pressure and is continued to the peritoneal reflexion of the vesico-uterine pouch precisely as it would be if the operator were going to open into the peritoneal cavity between the uterus and bladder. Observe here, just beneath the sponge, the translucent peritoneum, which for the present purpose is not usually to be incised.

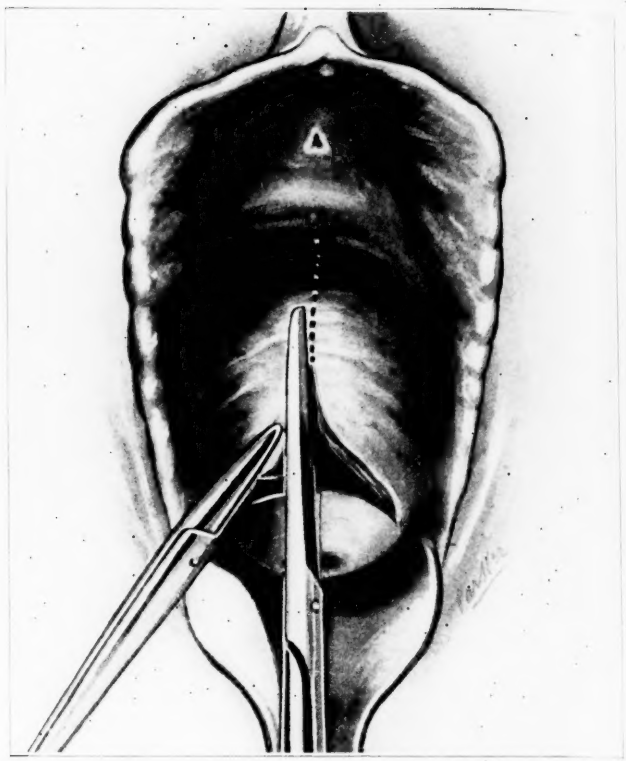

Fig. 4.—Broad Ligament Operation for Complete Descent of the Uterus.—The bladder has been stripped off uterus, and the peritoneum exposed (Figure 3), the vesicovaginal septum is drawn down over the anterior uterine wall by a forceps, and the vaginal layer of the septum is being split on the median line with scissors.

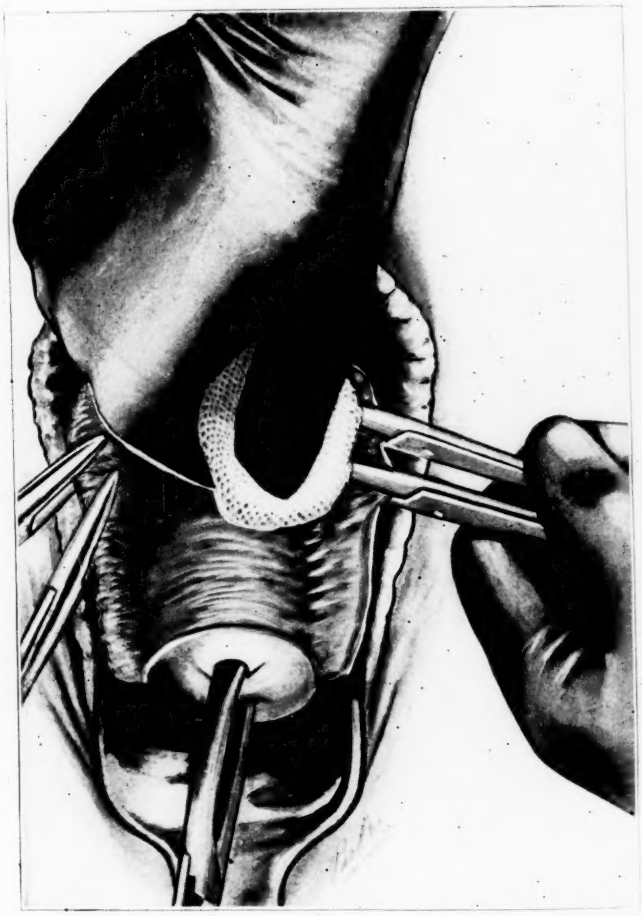

Fig. 5.—Broad Ligament Operation for Complete Descent of the Uterus.—The vaginal layer of the vesicovaginal septum is being stripped away from the bladder wall by the same kind of blunt dissection used in Figure 3. The bladder as it is separated is pushed up out of sight.

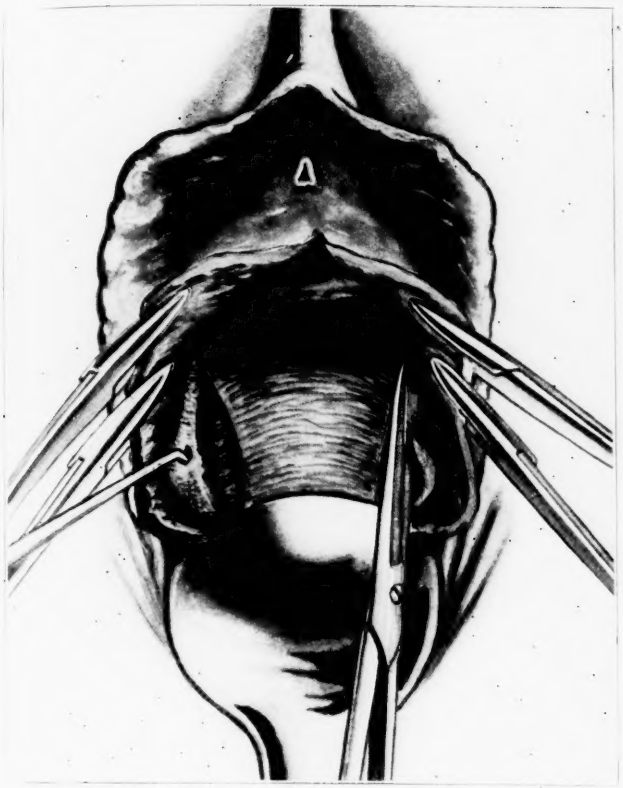

Fig. 6.—Broad Ligament Operation for Complete Descent of the Uterus.—The lower two-thirds of each broad ligament, and to avoid wounding the utero-ovarian anastomosis, a thin shaving of the cervix is being cut away with sharp pointed scissors. The right ligament has been severed and the left is being severed. The redundant vaginal layer (cystocele) which has been stripped off from the bladder is held by forceps out of the way to either side.

Fig. 8.—Broad Ligament Operation for Complete Descent of the Uterus.—The lower two-thirds of the severed broad ligaments have been united end to end by catgut sutures, thus forcing cervix still further back. The redundant vaginal wall (cystocele) has been cut away on the right and is being cut away on the left.

Fig. 7.—Broad Ligament Operation for Complete Descent of the Uterus.—The severed lower two-thirds of the broad ligaments are being approximated end to end by catgut sutures. First suture in place and being drawn tight. These ends as they are drawn together already are forcing the cervix back.

As already explained, the cut ends of these ligaments when united pull down together with them the adjacent parametric structures and in extensive operations also the round ligaments. Too tight tying is apt to strangulate the tissues, cause the sutures to cut out and prevent union. Number one or two chromic catgut ordinarily is used. Silkworm gut is better but difficult to remove.

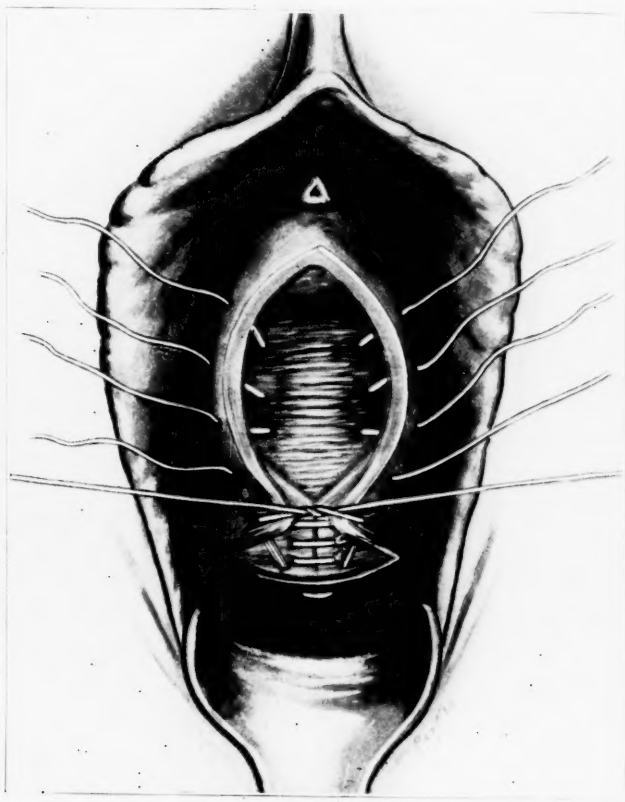

Fig. 9.—Broad Ligament Operation for Complete Descent of the Uterus.—The severed ends of the broad ligament having been united in front of cervix, and the cystocele excised, the cut edges of the vaginal wall are being approximated from side to side. The first suture, which is being drawn tight, shows how the margins are approximated near the cervix. The other sutures show the method of union between this first suture and the others, which are introduced but not tied. *Observe that these sutures all catch up the uterine wall, thus forcing the bladder up so that it can not come down again between the uterus and the vagina. This forcing up the bladder is a very essential factor in the success of the operation.*

## END-TO-END APPROXIMATION OF THE BROAD LIGAMENT IN SUPRAVAGINAL AND COMPLETE HYSTEROMYOMECTOMY.

The older operation of hysteromyomectomy, by which the broad ligaments were ligated and permitted to retract to the sides of the pelvis was, in many cases, unsatisfactory, because the ligaments thus retracted could no longer contribute their part to holding up the pelvic floor and because consequently the operation often was followed by descent of the rectum, vagina and bladder to the vulva and in some instances outside the vulva. The purpose of end-to-end approximation is to utilize the ligaments in the performance of their normal sus-

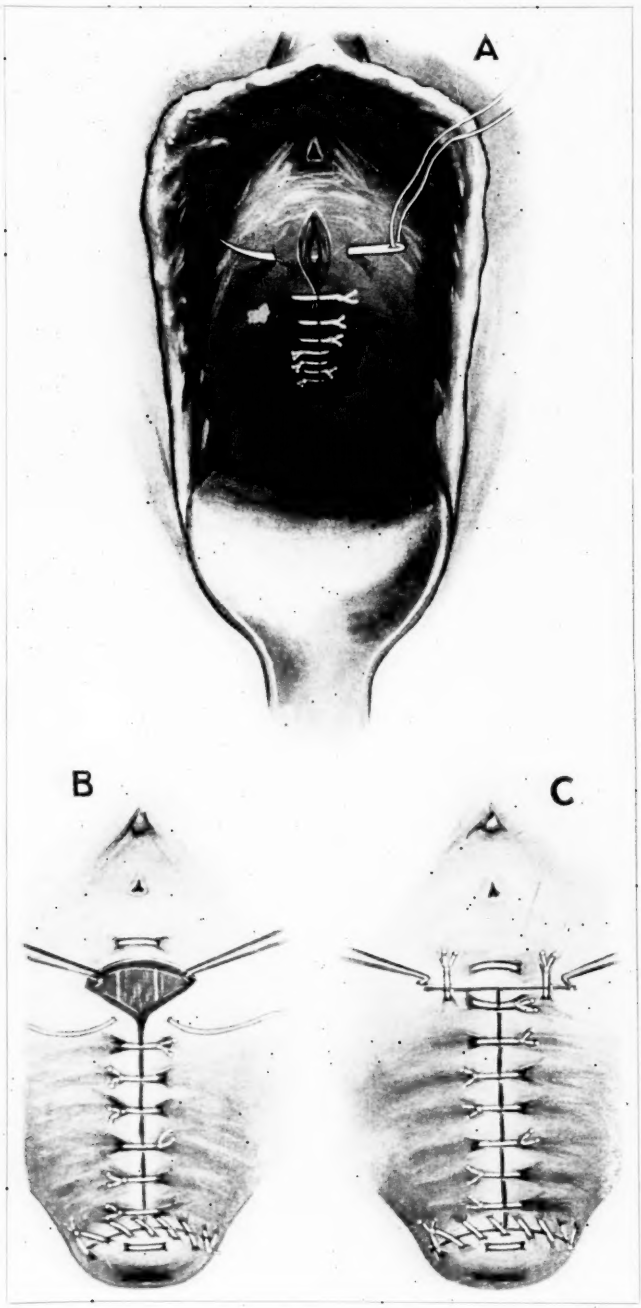


Fig. 10.—Broad Ligament Operation for Complete Descent of the Uterus.—The redundant vaginal wall having been removed (Figure 8) the lateral margins of the vaginal wound are being united by interrupted sutures. As the result of this union the cervix and upper end of the vagina have been forced back to their normal location in the hollow of the sacrum. B and C show the lines of union complete. At the urethral end of the wound the redundant vaginal wall can not be disposed of always by a median line of union. It may be necessary, as shown here, to unite that part in a direction at right angles to the main line of union. Traction is being made by tenacula at each end of this transverse line of union. The cervical lines of union also have the T shape.

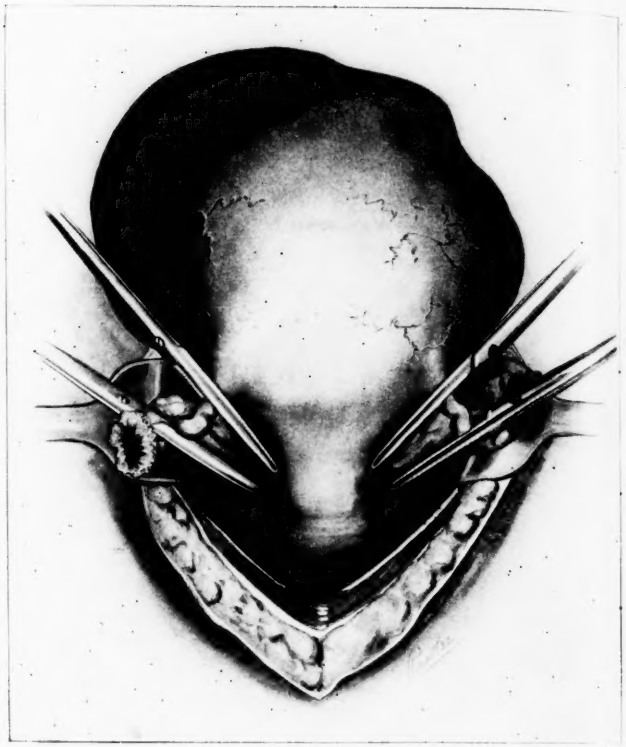

Fig. 11.—Supravaginal Hysterectomy.—Median incision. Abdominal wound held apart by retractor. Myomatous uterus delivered through the wound. Broad ligament on either side clamped by two long forceps preparatory to supravaginal amputation of the uterus. Cervix uteri between tips of forceps. Bladder in front.

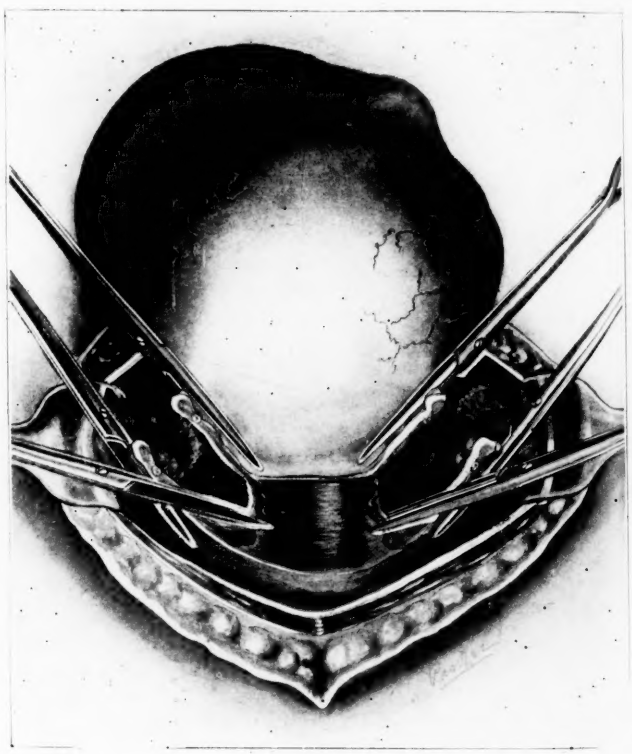

Fig. 12.—Supravaginal Hysterectomy.—Semi-diagrammatic. A transverse incision has been made in front of the cervix uteri at the vesical reflexion, each end terminating where the broad ligament joins the uterus. A similar incision has been made through the peritoneum on the posterior wall of the uterus, but on a line rather higher than the one on the front. The bladder has been stripped away from the cervix as far down as possible by the same kind of sponge pressure as shown in Figure 3. The posterior peritoneum has been stripped down toward the vaginal portion of the cervix in the same manner. The broad ligament has been divided on either side between the forceps and the utero-ovarian anastomosis has been clamped by an additional forceps.

taining functions. I published the essential principle of this operation in 1902, and here present it again in order to set forth certain modifications in technic.

*Supravaginal Hysteromyomectomy Without Drainage.*—Figures 11 to 16, with their legends, will explain the operation of supravaginal hysteromyomectomy as

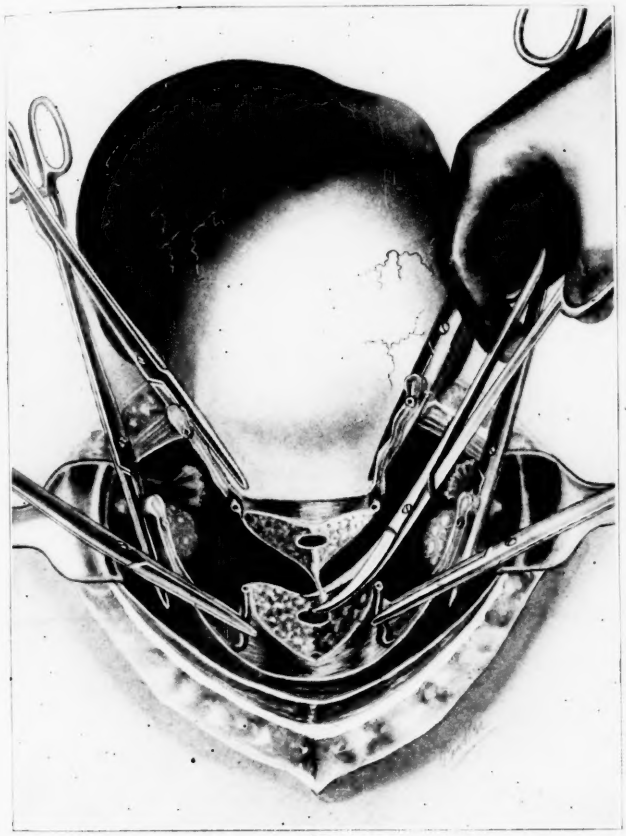

Fig. 13.—Supravaginal Hysterectomy. Semi-diagrammatic. The myomatous corpus uteri is being cut from the cervix by means of scissors. Observe the triangular incision is directed not in the lateral but in the anteroposterior direction. The tumor having been removed, the next step will be to secure the uterine and ovarian arteries by means of catgut ligatures on either side. This having been done the forceps are to be removed. The broad ligaments and the two sides of the cervical stump are then to be brought together.

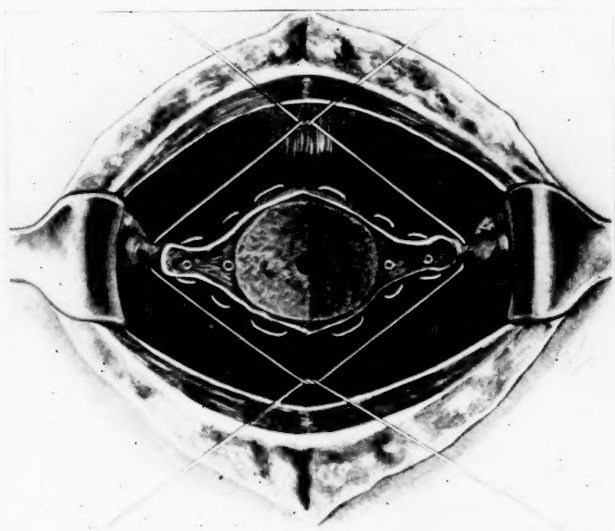

Fig. 14.—Supravaginal Hysterectomy. Semi-diagrammatic. Looking down on the cervical stump and severed broad ligaments instead of looking at the anterior wall of the cervix as in Figure 13. Uterine and ovarian arteries secured by ligature. Two running catgut sutures catching up the peritoneal covering of the cervical stump and of the broad ligaments, one anterior and one posterior to the cervix and broad ligaments, have been passed in such a manner that when tied they will draw into apposition the two lateral surfaces of the cervical stump and will unite the ligaments, end to end.

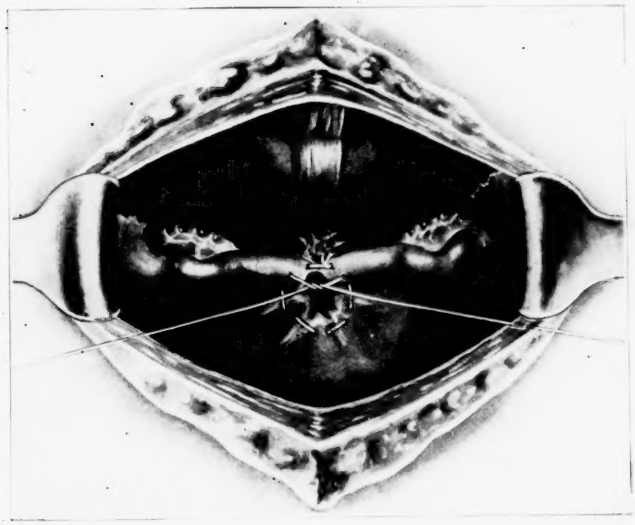

Fig. 15.—Supravaginal Hysterectomy. Semi-diagrammatic. The posterior continuous suture shown in Figure 14 has been drawn taut and tied. The anterior suture is being drawn taut preparatory to tying.

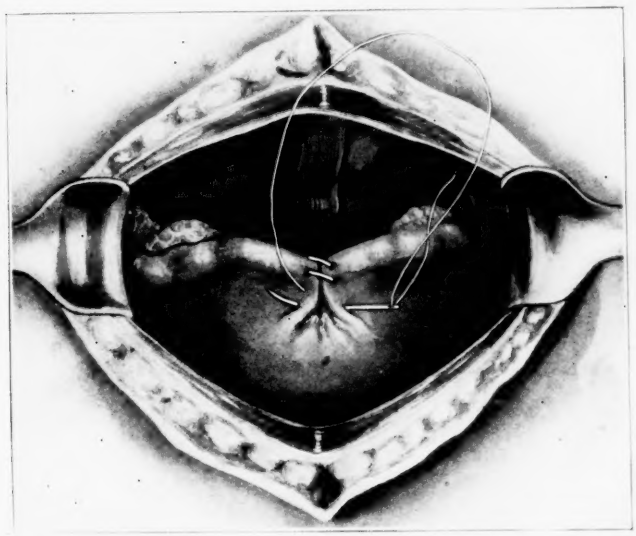

Fig. 16.—Supravaginal Hysterectomy. Semi-diagrammatic. The broad ligaments having been drawn together as shown in Figure 15 the approximation is completed by an additional running catgut suture beginning at the lower end of the line of union on the posterior side of the united ligaments and continuing over the edge of the ligaments down on the anterior surface to the bladder. This completes the closure of the pelvic wound.

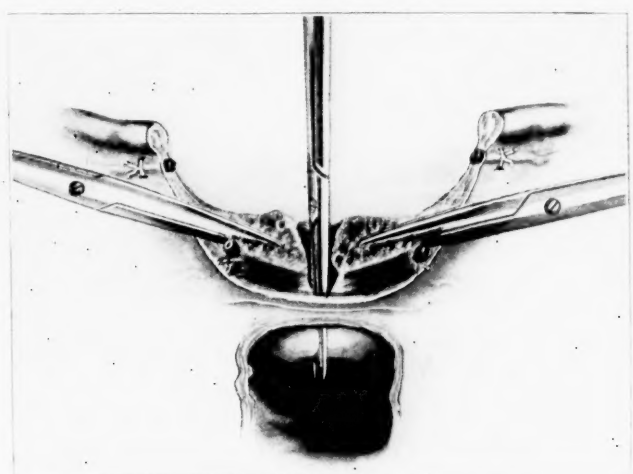

Fig. 17.—Supravaginal Hysterectomy. The corpus uteri has been removed, as shown in Figure 13. The uterine and ovarian arteries have been tied with catgut. The cervical stump is being held up and steadied by two forceps and divided anteroposteriorly into two equal lateral fragments clear to the vagina by means of scissors. In a very short, easily dilatable patulous cervix the uterine dilator introduced from above downwards might be used to divulse the cervical canal widely in place of cutting with scissors.

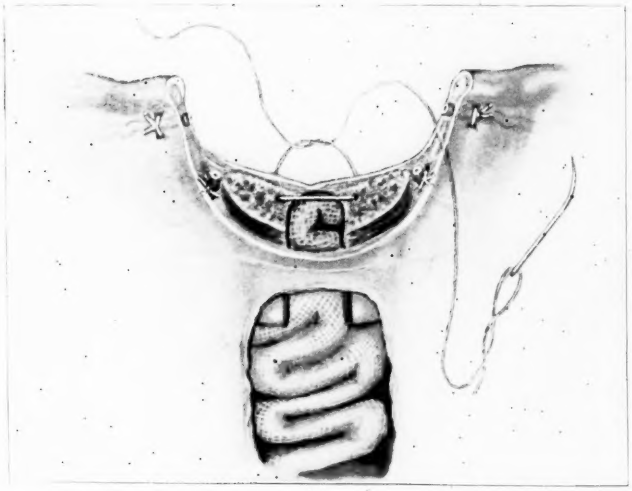

Fig. 18.—Supravaginal Hysterectomy. Semi-diagrammatic. The cervix having been divided or dilated as explained in the legend of Figure 17, a short strip of gauze is introduced from above downward into the vagina. The two fragments of the cervix and the cut ends of the broad ligaments are then ready to be united by sutures. The first suture is introduced but not tied. The operator may use the same form of suture as shown in Figures 14, 15 and 16, or may adopt any other form which the case may require.

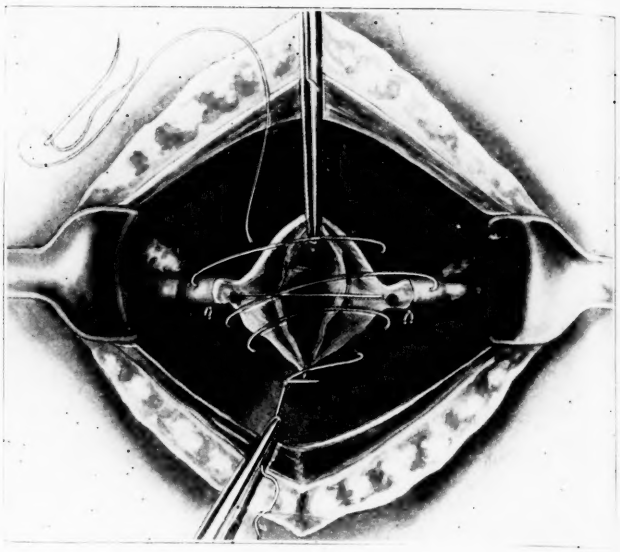

Fig. 21.—Complete Hysterectomy. Semi-diagrammatic. Continuation of Figure 20. The cervical stump having been removed, the cut edge of the vagina is drawn up by means of forceps and included in a continuous suture which closes the upper end of the vagina against the united broad ligaments which are brought together end to end. This form of suture is here introduced to show a method of union. Other forms of suture may be better suited to individual cases.

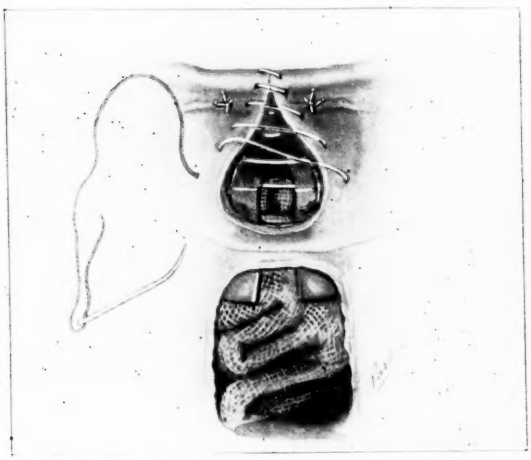

Fig. 19.—Supravaginal Hysterectomy. Semi-diagrammatic. Continuation of Figure 18. Vaginal gauze drain. End to end approximation of the broad ligaments by continuous suture. This suture is here intended to suggest a method of closure. Other forms of suture and methods of closure are permissible.

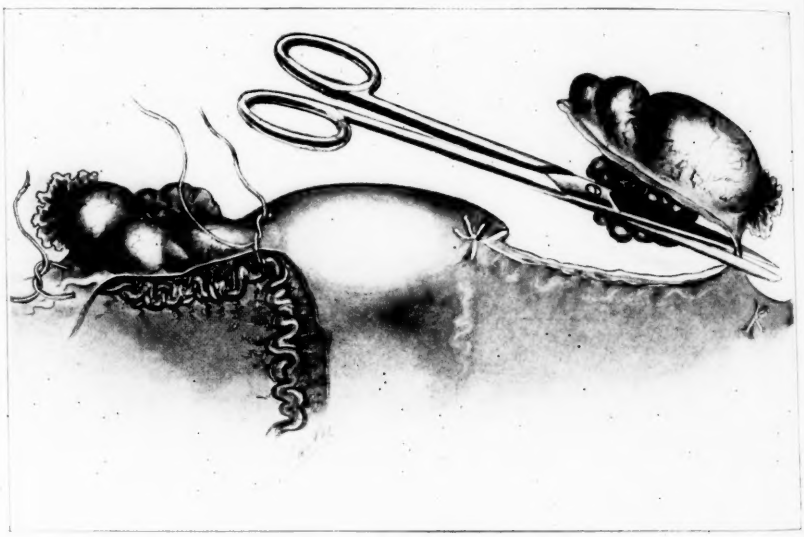

Fig. 22.—Reefing of Broad Ligaments After Removal of Uterine Appendages. For explanation see following page.

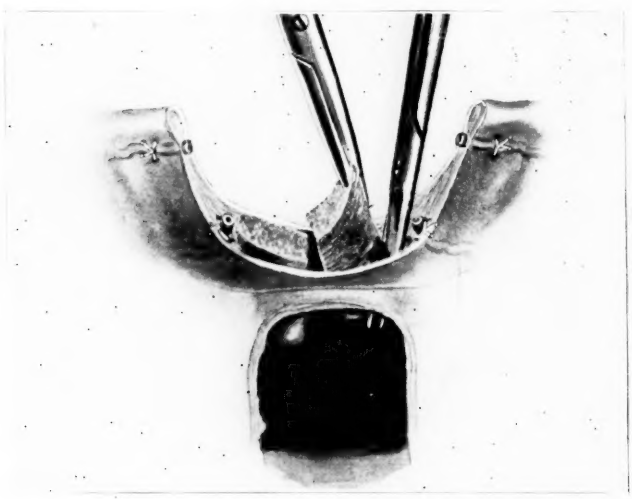

Fig. 20.—Complete Hysterectomy. Semi-diagrammatic. The myomatous corpus having been removed and the cervix split, the two lateral fragments are being removed by means of scissors, care being taken to keep close to the cervix in order to avoid the ureters.

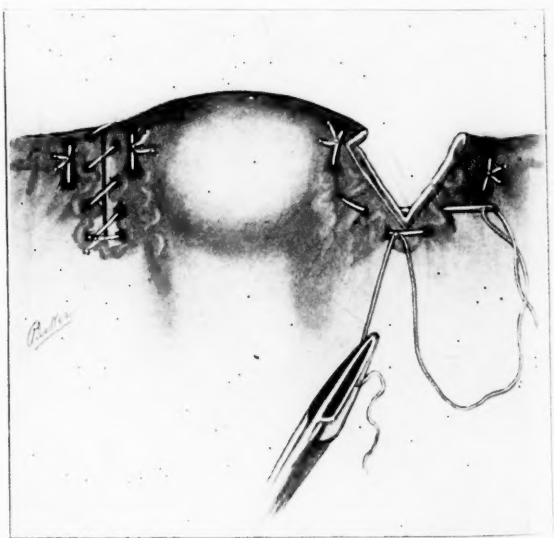

Fig. 23.—Reefing of Broad Ligaments After Removal of Uterine Appendages. For explanation see following page.

modified from the original publication. To secure simplicity, the non-essential anatomy has been omitted.

*Supravaginal Hysteromyomectomy with Drainage.*—There may be some pathologic condition in connection with the ligaments or the cervical stump which would indicate drainage so that any secretions which might form in the line of union may find their way into the vagina instead of into the peritoneum. Figures 17, 18 and 19, with their legends, illustrate the operation as modified for vaginal drainage.

*Complete Hysteromyomectomy.*—If the entire uterus is to be removed, the operation will go forward as already described for the removal of the myomatous corpus uteri. The cervix then may be cut out and the wound closed as shown in Figures 20 and 21.

### ADVANTAGES OF END-TO-END APPROXIMATION.

1. The broad ligaments, in the anatomic sense, take the place of the excised uterus and form a pouch posteriorly like the cul-de-sac of Douglas, and anteriorly a depression that answers to the uterovesical pouch, thus conforming to the normal anatomy.

2. The broad ligaments, thus united, together with adjacent structures, hold up the rectum, bladder, vagina and other parts of the pelvic floor, and in so doing prevent the descent of these organs which so commonly results from hysterectomy as ordinarily performed.

3. The broad ligaments and adjacent structures, in occupying the space left by complete hysterectomy, prevent the intimate union of the rectum and bladder, a union which would leave only a thin wall between them, through which infection might pass from one to the other.

4. The operation is performed more easily and quickly by this method than by that of transverse suturing of the wounded ligaments.

5. There is, after closure, much less intraperitoneal traumatism and consequently less danger of sepsis, adhesions and secondary hemorrhage.

6. The mortality of the operation in my own cases during the last four years has not risen above 1 per cent.

### KEEPING THE BROAD LIGAMENTS IN THE REMOVAL OF THE UTERINE APPENDAGES.

The old and obsolete method of ligating the broad ligaments *en masse,* cutting off the tube and ovary and then dropping the raw stump back into the pelvic cavity, although surgically crude, yet had the advantage of shortening the broad ligaments and consequently of holding up the uterus and the other parts of the pelvic floor. A large proportion of the cases of removal of the appendages are complicated by backward or downward displacement of the uterus, and the displacement is apt to be increased by the modern operation of whipping over the edge of the broad ligament after removal of the appendage. The right side of Figure 22 shows the cut edge of the ligament. Instead of a running suture to unite the peritoneum on either side over this cut edge, I proposed, in 1902, to double it on itself and thereby to shorten the ligament. Although I have in no respect modified this operation, I venture to introduce it here both because of its effectiveness in holding the uterus in normal position and because the presentation of it completes the list of procedures in which I have been specially interested for the preservation of the functions of the broad ligaments and their adjacent structures in pelvic surgery. Figures 22 and 23 will serve to illustrate the method.

Figure 22 on the left side shows the anatomy of the circulation and two ligatures thrown around the ovarian artery, but not tied. The right side shows diseased appendages being cut away, the ligatures having been tied so as to shut off the blood current from the artery as it emerges from the infundibulopelvic ligament and from the utero-ovarian anastomosis.

Fig. 23 on the right side shows the raw edge of broad ligament after removal of the appendages. This ligament is being shortened by closure on itself by means of a continuous catgut suture. The left side shows complete closure and folding on itself of the broad ligament.

### DISCUSSION.

DR. EDWARD REYNOLDS, Boston, said that if he disapproved of the proposed operation Dr. Dudley knows that he would say so, but as he listened to the paper he said to himself "Dudley has struck it this time." He would not, however, do this operation in young women likely to become pregnant. But nineteen-twentieths of the cases in which prolapse occurs are in women who will not again be pregnant. In Dr. Dudley's operation the natural supports are utilized so to fix the bulk of the support across the floor of the pelvis. This will so protect the natural supports that they are not likely to be broken down.

DR. E. E. MONTGOMERY, Philadelphia, agreed with Dr. Reynolds. He does not know of any condition that gives more trouble than an extensive prolapse, and after the description of this perfect procedure one is surprised that it has been overlooked so long. He has pushed off the bladder and tucked it up in order to keep it from pushing down, and then cut out a semicircular section on either side and lengthened the anterior wall of the vagina and overcome the cystocele, but this is not nearly so effective as the method mentioned by Dr. Dudley.

DR. R. WALDO, New York, said that if the broad ligaments hold, this operation may cure the disease, but we do not know that they will hold. All surgeons have had sad experiences wherein they have stitched fibrous tissues together. This does not always hold. Another principle which it is very essential to remember is the necessity of holding the fundus of the uterus forward, for in procedentia one of the first things to happen is retroversion. This operation will hold back the cervix. Dr. Waldo has operated for complete procidentia through the vagina anteriorly, bringing the fundus forward and stitching it there.

DR. F. J. TAUSSIG, St. Louis, said that it is as difficult to estimate the value of an operation for prolapse as it is that of an operation for uterine cancer, for in either case we have to wait three, four or five years after the operation to see if we have secured a permanent result. The method of using the broad ligaments instead of the round and the uterosacral ligaments is an improvement. Dr. Taussig recalls having seen Mackenrodt do a similar one in 1901, and since then he notes that Mackenrodt has given up this method. This method does not take into consideration the bladder. We know from experience in operating for prolapse that the recurrence is usually in the shape of a cystocele, and it is to guard against this that we must strive as much as possible. Seventy-five per cent. of these cases occur in women over 40. For these reasons the Freund-Wertheim uterovaginal plastic operation, in which the uterus acts as a plug for the cystocele, should be employed. Dr. Taussig finds in the reports of this operation 148 cases with a return of the prolapse in 5. This certainly speaks well for the operation. He believes it should receive more consideration at the hands of American surgeons.

DR. D. H. CRAIG, Boston, thinks that any of us who have had experience in the employment of the broad ligaments, as suggested some time ago by Dr. Dudley, have had occasion to be well satisfied with the manner in which they have functionated in their new relationship. The original causation of cystocele and other forms of descent of the vaginal wall, however, is almost invariably a laceration of the vaginal outlet. Dr. Craig emphasized the necessity of attacking certain

other conditions early; in his opinion if all these lacerations were promptly repaired cystocele would become of historical rather than of practical interest. Physiologically, the broad ligaments are required to possess enormous ability to elongate upward during pregnancy. In cystocele this ability simply manifests itself in the reverse direction, and since these ligaments have once partly elongated downward as the result of abnormal conditions below them, it may be that they possess an ability to elongate still further after the operation. To guard against this, operation must be done as early as possible and every item of injury to the vaginal outlet repaired. With this proviso the operation seems to Dr. Craig the best yet suggested.

DR. E. C. DUDLEY, Chicago, stated that he has not performed the operation in young women, because his cases had occurred in women past middle life, but he would not hesitate to do so. The remarks relative to the operation of Mackenrodt, he declared, were irrelevant. Mackenrodt has never published a description of this operation, nor of any operation similar to this, nor has Dr. Dudley ever had any reason to think Mackenrodt ever performed it. The fact that he performed some other operation and subsequently gave it up as being unfit has nothing to do with the subject. In putting forth this operation Dr. Dudley said that he has had constantly before his mind anatomic conditions and the utilization of anatomic structures in such a way as to make them perform their functions with the least disturbance of normal relations. He emphasized the great importance of separating the bladder completely from the uterus, and pushing it up out of the way. He also reiterated the opening statement of this paper that the operation does not depend wholly on the supporting power of the ligaments, but also on other adjacent structures, the integrity also of which is restored by adjustment of the ligaments, this being an essential condition of success.

## MILK IN INFECTIOUS DISEASES.

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GREELEY, COLO.

Milk has been used for so long a period and to such an extent that its status as a food ought to be settled beyond cavil or doubt. Unfortunately this is not the case. In this article it is my purpose to consider the objections to milk as a food for the sick, as well as its merits. Before discussing the advantages it may be well to consider briefly the actual conditions present, particularly in the digestive organs, in persons suffering from an infectious disease.

In infectious diseases it has not been found possible to prevent a steady loss of body weight by any method of feeding, save in rare instances. This varies in an average daily loss of from 0.33 to 0.5 of 1 per cent of the entire weight during prolonged fevers. A man weighing 150 pounds would lose from one-half to three-quarters of a pound daily or from 10 to 15 pounds in twenty days, notwithstanding that proper nourishment was supplied. In pneumonia the loss has been as high as 15 pounds in twelve days.

While the reserve fat is drawn on, the loss is chiefly in nitrogenous elements. It would seem to be an easy solution of the problem of feeding the sick to furnish as much nitrogenous food as is lost by excessive metabolism. Experiments show that if this is done the digestive organs are overworked, flatulence and loss of appetite may ensue, while in extreme cases an autointoxication may develop and instead of a gain there is a loss.

A man in health requires food equivalents of from 2,500 to 3,000 calories if measured in heat units. This must be divided among the chief classes of food in the proportion of 100 to 125 gm. of protein, 50 to 100 gm. of fat and 300 to 500 gm. of carbohydrates. The normal man can not get along well with protein or fat alone or with fat and carbohydrates without protein; neither can the man with an infectious disease, though perhaps the body's demand is not proportionally so great. In speaking of the need in fevers, Leyden of Berlin says: "Fats and carbohydrates are just as necessary as albumin, no one is preferred to the others." It has been estimated that a man ill with some form of fever needs from 2,000 to 2,500 calories to maintain complete renewal of structure. As this can not be entirely done, the actual need of the system is much less. Clinical experience is in entire accord with this view, as is easy to demonstrate that a patient does very well on much less. A laboring man if fed on milk would require 5 liters or approximately 3,000 calories a day, while 2 liters, 1,200 calories, have been found sufficient for an average patient stricken with an infectious disease.

There is a progressive weakening in digestion as an infection advances. The secretion of saliva is diminished or entirely checked, while mastication is difficult because of the dryness of the mouth and tongue. The gastric juice contains a diminished amount of hydrochloric acid, which may be entirely absent in some cases. The stomach may be weak and irritable, with its motor function impaired. According to Hoesslin, "on the part of the intestines fats and carbohydrates are quite well absorbed." These changes in the digestive organs vary according to the variety and intensity of the infection and its duration. It used to be taught that when the temperature was high absorption of food could take place only to a slight extent. This theory has long since been exploded, though probably tenaciously held yet by some. Proper food correctly administered does not apparently increase the temperature. Indigestion with flatulence and possibly a decomposition of albuminoids producing an autointoxication may exaggerate symptoms and cause a rise in temperature.

In a number of instances made in typhoid fever by experts attached to the U. S. Department of Agriculture it was found that about 80 per cent. of the protein in milk appears to be assimilated. It was also found that nitrogenous elements were more easily assimilated and in larger quantities when water was given freely. This was especially true when the temperature was high.

It is the ordinary custom at the beginning of an infection to stimulate the action of the bowels for the purposes of elimination. When this is done the patient is ready to be placed on a gradually increasing diet, whether he craves food or not, in order that the body may be fortified to withstand any demands made on it. Of what shall this diet consist? What shall be the chief article of food? To the unprejudiced, careful investigator milk is found to possess the necessary constituents that make it an almost ideal food for the sick. It contains protein, fat and carbohydrates, together with a small amount of salts usually required by the system, or all the ingredients needed to sustain and to nourish the body.

As a rule, milk is easy to obtain and, being a liquid, is readily administered. This is of great importance in sickness among the poor or in families where skilled preparation of food can not be expected. As each liter or quart contains 35 grams of albumin, 35 grams of fat and 45 grams of sugar, or energy represented by 610 calories, it does not require an expert or a chemist to estimate the amount of nutritive products the patient is receiving each day. It is probable that no other food

suitable for the sick can be gauged more accurately. The food value of soups, broths, etc., can not well be accurately measured except by the effect on the patient, and unnecessary weight may be lost before the discovery is made that the feeding is inadequate. As milk holds globules of fat in suspension, it is soothing to the irritated or inflamed mucous membrane of the alimentary tract. The diuretic effects from lactose which is readily absorbed and water are worthy of consideration as an aid in the elimination of toxins, for similar results can not be obtained from any other suitable food.

Some writers object to milk as food for the sick for some of the following reasons: It sometimes causes constipation; a certain form of bacterial decomposition may develop and possibly diarrhea; it is deficient in iron and has too large a proportion of fat compared with the protein and carbohydrates; it is insipid and, most important of all, forms tough, indigestible curds, which by blocking the lumen of the intestines or coming in contact with ulcerated surfaces in typhoid may endanger life.

One author (Benedict) objects to milk on account of its constipating effects and at the same time complains of the excess of fat, which tends to prevent constipation. It is a well-known fact that cream cheese does not have the costive effects of skimmed cheese or that made from milk with from 45 to 90 per cent. of the cream removed. If there is a deficiency in iron it can readily be supplied by occasional feeding with some liquid preparation of beef. If there is diarrhea or bacterial decomposition, or both, by a change in the quantity or in the method of giving milk proper conditions may be produced; if not, mixed or alternate feeding with other food substances may correct the abnormality.

The objection to the excess of fat can not be sustained by substantial reasons. The fat in milk is suspended in a fine emulsion. As a result the action of the intestinal juices in emulsifying fats is unnecessary, and the weakened organs are thus saved considerable work. It can reasonably be expected that the fat in milk is digested and absorbed to a much greater extent than would fat in other forms. It is known to be absorbed to a large extent even in typhoid. So great an authority as Klemperer does not seem to think that there is an excess of fat, for he states that in enteric fever "an addition of 50 grams of sugar of milk and 100 c.c. of cream to 1 liter of the milk markedly increases the nutritive value." By the addition of 0.5 liter of cream and 100 grams of sugar to 1.5 liters of milk the full theoretical calory requirement is attained, according to the same authority, if the patient is given a little alcohol in addition. If this amount of food could be properly digested each day the loss of weight should be reduced to a very small fraction.

The chief objection and the one that is entitled to careful consideration is that tough, cheesy curds are formed in the stomach and intestines, which may really do harm in their passage through the lower tract. To what extent is this true? When milk enters the healthy stomach it is at once coagulated by the action of the acids of the stomach and the rennin of the gastric juice. The casein thus separated into curds is then attacked and digested by the gastric juice. Should the stomach contain an excess of acids the curdling process will be more rapid and the curds firmer in consistency. If less hydrochloric acid is secreted, as is usual in infectious diseases, the clotting process must be slowed, but the curds need not be tough. On the contrary it is reasonable to expect that a softer curd would be the result.

If hydrochloric acid were absent or secreted in very small amounts there might be only a small degree of coagulation and consequently only a partial digestion of casein. If the curds were never compact they could cause no damage to ulcerated areas in the intestines. It is possible that the consistency and shape of undigested masses may be changed in the lower bowel. Curds found in stools may be quite different from those which passed through the small intestine. It is well to remember that curds do not have sharp edges or square corners, and that if they were not redissolved the friction and irritation to the intestinal wall would be less than that of a solid food, unless very finely divided. A high temperature can have but little effect on the curdling process, for in making cheese milk is heated to 110 or 112 F., yet several hours are required for separation of the curd, even with the help of rennin.

The indigestible curd is the *bête noire* that manufacturers of prepared foods hold up to physicians to induce them to use their preparations. One of these not long ago sent out an attractive pamphlet containing expensive cuts, which, together with the reading matter, were evidently intended to frighten the physician with possible dire results from milk curds in typhoid ulceration. A demonstrator of medicine in an Eastern school gives an elaborate account in this pamphlet of an autopsy performed on the body of a patient dead from typhoid, in which twenty feet of intestines were found filled with caseinous masses. He further claims that in autopsies made on typhoid cases fed with milk alone he has observed "the presence of tough cheesy curds in the intestinal tract, sometimes in considerable amount." He further states that "they occurred with more or less frequency" and draws the conclusion that they might be the determining factor in producing a serious outcome. The intention is apparently to impress the reader, who is, of course, a physician, that curds are found frequently at autopsies and that they are dangerous factors. Fortunately, they can be prevented, it is claimed, by using a certain food preparation, the virtues of which are extolled toward the close of the circular. Wishing to learn to what extent leathery curds were found at autopsies, I wrote to three of the leading pathologists in the United States, asking them to kindly answer the following questions:

1. In your examination of bodies dead from typhoid or other diseases, how frequently have you found a tough leathery milk curd in the small intestines?

2. If found, was this curd a cause of death or a contributory cause?

3. Was its formation due to defective digestion or to the conditions just preceding inevitable death?

Prof. L. Hektoen, of Rush Medical College, gave a negative answer to questions 1 and 2, which is also an answer to question 3.

Prof. Joseph McFarland, of the Medico-Chirurgical College of Philadelphia, states: "In cases in which I have opened the intestines myself I have scarcely ever found such curds, and in no case in which I did find them did I regard them of importance."

Prof. W. T. Councilman, of the Harvard University Medical School, answered these questions as follows:

"1. I have seen such masses.

"2. I have not considered that they contributed to death.

"3. I have regarded them as due to an injudicious pushing of a milk diet."

Since only two of these careful observers have discovered such curds, and one of these has scarcely ever found them, the conclusion can safely be drawn that they are rarely present at death. All were of the opinion that they were not a contributory cause of death. Is this testimony of these three eminent pathologists sufficient to lay the grim specter that has stalked in the shadow of tough, indigestible curds?

Much can be done to modify the curdling process in milk. If there is difficulty in digestion it is important that the casein be separated in a more flocculent form. Water given with milk or immediately after retards the clotting process and probably prevents a too firm formation. When water contains alkaline salts in solution it is hardly necessary to resort to limewater. Milk may be diluted with gruels made from cereals or with tea, coffee or cocoa. Not only will the process in the stomach be somewhat modified, but the insipid taste will be partly removed. At times it may be advisable to administer sour milk or buttermilk, each of which contains about one-half the calory value of sweet milk. When digestion seems difficult it may be a good plan to peptonize or pancreatinize the milk, that separation of casein may take place outside of the stomach.

The addition of citrate of sodium, from 1 to 3 grains to the ounce of milk, is being used in infantile feeding with great success. It apparently aids in preventing wrong curd formation or by rendering the casein more suitable for digestion. Being practically harmless, it can be added to milk given to adults when desired.

As milk requires about three hours for digestion in the stomach, the patient should not be fed oftener than this period, except in extreme cases. The stomach undoubtedly needs rest during disease as well as in health.

I do not advocate an exclusive milk diet, but I do claim that milk should be made the principal food substance in infectious diseases. Other valuable foods, such as the albumin of eggs or the juice of beef, which contains 6 per cent. of protein, may be used for alternate feeding or as adjuvants. Occasionally a patient has an extreme repugnance to milk and must be nourished by other foods.

Greater attention is probably paid to diet in typhoid than in any other infection, because of the intestinal lesions, and yet it has been claimed that less than one-fourth of the deaths are due to hemorrhage or perforation, while nearly one-half died from the severity of the infection. In other diseases, like pneumonia or variola, it is the severity of the infection that is the chief cause of death. Hence the great need in all severe diseases of maintaining the strength of the patient by proper nutrition. Lack of attention to feeding has undoubtedly been the cause of many deaths. For the system to win in a severe fight with the agents of death it must be fully and continuously supported.

The physician is beset by agents representing manufactured foods, each, according to claims made, superior to all others in some particulars. Some undoubtedly have merit and can be used to advantage for a brief period or for alternate feeding. The liquid preparations are ready for instant use and are easy to give at night. Their chief drawback is that they contain only albuminoid food, or nothing to maintain the vital processes unless it is the high percentage of alcohol. It may sometimes be forgotten by those opposed to alcoholic stimulation that the peptones are mummified in spirits and that with each ounce of food nearly one-half ounce of whisky or its equivalent is given.

At the Weld County Hospital, during the past four years, sixty-nine cases of typhoid have been treated in the charity department by different physicians, with a loss by death of two cases, or 3 per cent. The diet was exclusively one of milk, except when unfavorable abdominal symptoms developed. This record is much better than the average, though the nursing was probably not up to the usual hospital standard. So long as such results continue a change of feeding would apparently be unwise.

Shall physicians listen to the siren voices of commercialism and be cast adrift on the shoals of contrary claims and false representation, or shall they hold fast to a tried and efficient diet for the nourishment of the sick?

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## THE QUANTITATIVE ESTIMATION OF DIET IN PRIVATE PRACTICE.*

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The science of cookery is an important branch of pharmacy, in the broad sense, the decision as to the quality of a food stuff, an important branch of pharmacognosy, and the management of the diet by the physician, a branch of therapeutics. The quantitative estimate of foods consumed, and a knowledge of their active, nutritive principles, is quite as necessary as a knowledge of drug dosage, with the proviso that the necessity for accuracy in the amounts prescribed is inverse to the powerfulness, that is, the toxicity of the substance administered. While in health a normal appetite or even habit may be a tolerably safe guide to the nature and amount of the food ingested, quantitative estimates become necessary in disease, especially as the disease influences or is influenced by metabolism, so that the avoidance of an excess or deficit or the purposive creation of an excess or deficit of food in general or of any particular kind of food, has a direct bearing on the case. Obesity, leanness and emaciation, consumption, anemia, protracted fevers, especially typhoid in this climate, diabetes, gout and lithemia, direct disturbance of the nutritive and eliminative organs, nutrition of infants and the mentally deranged, including hysterics and the victims of habits, may be mentioned as requiring especial dietetic attention.

In this paper, the control of diet in institutions in which accurate metabolism experiments are feasible, will not be discussed, but only means available in private practice and involving approximate yet sufficiently accurate methods from the practical standpoint.

The following general rules should be laid down:

1. No single article of food contains the requisite proportions of the various proximate food principles necessary. To this rule we have one practical exception, that human milk or other milk, made to conform approximately to the gross analysis of human milk, is a satisfactory food for young infants, say up to the age of one year. This exception holds because the infant is build-

* Read in the Section on Pharmacology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

ing tissue, including fat, at a rate never subsequently paralleled and because the infant starts life with an excess of iron in the liver and, less markedly, in the spleen and marrow. An exclusive milk diet ordered for an adult for more than a few days is a therapeutic crime often terminating in homicide. A theoretic exception exists in the case of a few purely artificial foods, some of them available for a few days. In most instances, the claim that a certain proprietary article is an adequate, complete nutriment can be excused only on the ground of gross ignorance. Even if a theoretically adequate single food stuff existed, it would not sufficiently stimulate the digestive secretions.

2. The conception of condensed nourishment is utterly fallacious. The minimum daily adult requirement is about 50 grams of proteid, 300 of carbohydrate and 50 of fat and about 10 of mineral substances. The first three being, on the whole, lighter than water, the volume occupied is more than 400 c.c., approximately a pint. For various reasons, chemically pure nutriments are not compatible with the maintenance of life and the amount of indigestible material and water, contained in even apparently dry and concentrated food stuffs, can not fall much short of 50 per cent. Thus, about 800 grams, nearly two pounds, of solid food, occupying a bulk of nearly a quart, and not susceptible of any considerable compression, represent the minimum ration.

3. In any case, allowing for deficiencies of absorption of nourishment, and deficits or excesses to be created according to opposite conditions inherent in the case, and allowing also for habits of exercise, and disturbances of oxidation, the attendant must start with a definite conception of the ration for each proximate nutritive principle proteid, fat, carbohydrate, sodium chlorid, iron or hemoglobin, water, etc. needed. He must then translate these requirements into terms of ordinary food stuffs, allowing as great a variety as possible.

4. With certain rather rare exceptions, the following limits may be stated: Proteid, not less than 50 nor more than 150 grams are to be given. Russell H. Chittenden's experiments should be taken as showing the minimum allowance of proteid on which the body, with an ample allowance of fuel foods, can possibly maintain a balance. To hold that anything in excess of this minimum is injurious, would be analogous to saying that no clothing should be worn beyond that necessary to prevent arrest and frost bite. The various older standards seem to show that somewhere between 60 and 100 grams of proteid is the proper ration. In diabetes we are compelled to use proteid vicariously as a fuel food, but it is seldom advisable to exceed 150 grams.

Fats need not be given at all, their place being filled by proteid and still better by carbohydrate. About 30 grams may be introduced in apparently fat-free food. One hundred grams is the maximum desirable for a healthy person, about 10 per cent. being then passed through unabsorbed. When 150 grams are given, at least 20 per cent. is unabsorbed, and this is about the limit even in diabetes and phthisis and other states in which we are anxious to maintain or to increase the weight.

Carbohydrates, even in diabetes, except for a few days, must be given to the extent of 80 grams to prevent fatty acid intoxication, culminating in acetonemia. In obesity, it is well to reduce them moderately, but not so much as to prevent the formation of the requisite minimum of about 2,000 calories, for it is usually impossible to force the body to consume its store of fat by drastic measures. Three hundred grams is sufficient for persons exercising moderately at moderate temperatures and 500 grams is nearly the limit even under conditions of extreme physical exertion and cold.

Of sodium chlorid, about 9 grams a day seems to be required or, at least, advisable; as much as 30 grams may be taken without obvious harm, at least for a limited period.

Of iron, about 10 centigrams is required and this amount may be many times exceeded medicinally, without doing either harm or good. Generally speaking, enough iron and salts, aside from sodium chlorid, are taken in a fair ration of meat.

Of water, from 3,000 to 3,500 c.c. are required, the minimum normal elimination by the lungs, skin and kidneys being about 1,000 c.c. each. A little water, possibly sometimes as much as 300 c.c. is actually produced by oxidation in the body. About 1,000 c.c. are usually introduced in solid foods, leaving about 2,000 c.c. to be introduced in fruits and beverages, including water, of which about 1,000 c.c. should be taken. If there is excessive sweating, diarrhea or diuresis, more should be given, though not to the degree of maintaining the latter functions to a pathologic degree. Even in dropsy, water should be only moderately curtailed.

### TRANSLATION OF FOOD REQUIREMENTS INTO TERMS OF ORDINARY FOOD STUFFS.

With regard to the problem of translating food requirements into terms of ordinary food stuffs, it is convenient to divide the latter into groups somewhat independent of the primary classification of proteid, fat and carbohydrate. To avoid undue prolixity, the matter of the other proximate principles will be disregarded.

*Group 1.*—Food stuffs composed of practically only one organic proximate principle. There is no natural food consisting of proteid alone, although lean meats, poultry, game and fish may be considered as 20 per cent. dilutions of proteid, the fat amounting only to about 1 per cent. and the carbohydrate to less. White of egg is nearly pure proteid, amounting to 5 grams per egg. Various artificial proteids are on the market.

Sugar, sago, tapioca and corn starch are nearly pure (98 per cent.) carbohydrate.

Butter, lard and olive and adulterant oils contain practically nothing but fat, butter being about 90 per cent., the oils almost 100 per cent. fat.

*Group 2.*—Fodder vegetables containing practically no nutriment for man or other non-herbivorous animals. There is no objection to the use of these vegetables in moderate quantities and they are even useful to stimulate peristalsis and as antiscorbutics, but they are usually out of place in dietaries for invalids. It should be remembered that, on account of the burial of starch and sugar in dense masses of cellulose, the body does not derive even the amount of nutriment shown in analytic tables.

(*a*) Almost entirely lacking in nutriment are: Asparagus, cabbage sprouts, cauliflower, celery, cucumbers, beet greens, lettuce, rhubarb, sauerkraut, spinach (relatively rich in iron), tomatoes (rich in oxalates and hence harmful in gout, etc.).

(*b*) Containing nearly 5 per cent. of theoretically available but practically unavailable carbohydrate are: Cabbage, eggplant, kohlrabi, leeks, okra, pumpkin and radish.

All of these may be allowed in diabetes, to amuse the patient.

*Group 3.*—Ordinary sweet fruits and certain succulent vegetables not of the nature of seeds (though, of course, containing seeds). Few of these contain more than 1 per cent. of fat, nor more than from 2 to 3 per cent. of proteid. On account of their consistence, neither proteid, fat nor starch is digested to any degree, but their freely soluble sugars, levulose and dextrose are quite absorbable. These substances vary from 5 to 15 per cent. or more in preserves, artificially sweetened, but as it is not usually advisable to give more than from 100 to 200 grams of such fruits and vegetables in a day, the total quantity of nutriment does not exceed 50 grams of carbohydrates and is usually much less.

*Group 4.*—Fresh legumes, peas, beans and lentils, contain about 0.5 per cent of fat, from 2 to 9 per cent. of proteids and from 5 to 20 per cent. of carbohydrate, but there is much waste on account of their consistence and, as they are best given in purées, it is exceedingly difficult to estimate their nutritive content.

*Group 5.*—Dry leguminosæ and gramineæ seeds and meals, including bread stuffs, and cereals in the restricted sense. Seeds are the only plant parts commonly containing enough proteid to nourish non-herbivorous animals and only seeds of these two orders are commonly employed as foods, although various nuts will be mentioned later. Providing that these seeds are ultimately sufficiently comminuted and cooked, it makes very little difference whether they are bought as seeds or as flour or meal and whether they are cooked into crackers, biscuit, cake, bread, or are used in other forms. While there are considerable individual variations, this group contains close to 1 per cent. of fat, from 7 to 25 per cent. of proteid and from 50 to 70 per cent. of carbohydrate, mainly starch.

Meals, flours, crackers and breakfast foods all contain about 10 per cent. of proteid and from 65 to 70 per cent. of carbohydrate, fat being artificially added to crackers and biscuits, so that the natural 1 per cent. content may amount to as much as 13.5 per cent. for certain Graham and oatmeal crackers. Macaroni contains 10 per cent. of proteid, 70 per cent. of carbohydrate and practically no fat. Bread is relatively moist, not to mention its distension with bubbles of carbon dioxid produced by yeast at the expense of carbohydrate. It contains about 8 per cent. of proteid, 1.5 per cent. of fat and 50 per cent. of carbohydrate and is usually spread with about 10 per cent. of its weight of butter. Gluten bread contains from 10 to 15 per cent. of proteid and about 40 per cent. of carbohydrate and does not differ enough from ordinary bread to be seriously considered in diabetes. Indeed, the name furnishes an entirely false sense of security. Oatmeal is popularly supposed to be highly strengthening but, as a matter of fact, there is not enough difference between oatmeal, corn, wheat and rice to amount to much, while the chaff of oatmeal is distinctly harmful in ischochymia. Oats also contain a toxic principle. Neither is there any appreciable difference between new process and whole wheat flour, in spite of the mass of hysterical literature on the subject.

*Group 6.*—Vegetables containing almost no fat, little proteid and moderate amounts of carbohydrate. The principal members are the Irish potato, 2.1 per cent. proteid, 22.2 per cent. carbohydrate; sweet potato, 1.5 per cent. proteid, 27.5 per cent. carbohydrate; banana, 4.8 per cent. proteid, 20.2 per cent. carbohydrate. Patients should be warned that the banana is different from all other fruits in common use and physicians should remember that it is the only important source of starch ingested raw. It does not, of course, digest till the stomach is passed, except, perhaps, for the absorption of sugar and digestion of some proteid. This may or may not be a contraindication to its use.

Beets, turnips, carrots and parsnips contain about 1.5 per cent. of proteid and somewhere near 10 per cent. of carbohydrate, but on account of their consistence they are not important nutritives.

*Group 7.*—Fat meats. Clear salt pork and bacon and what appears as clear fat of other meats contain about 1 per cent. of proteid and 80 per cent. of fat. A streak of lean increases the proteid to 8 per cent. and reduces the fat to 70 per cent. The muscle of mutton and pork and of the base of tongue is infiltrated with fat, so that the percentage of fat is about 35 and that of proteid 15.

*Group 8.*—Eggs. It is more convenient to deal with the actual amounts than percentages of nutriment. The white contains about 6 grams of proteid. The yolk contains 2.5 grams of proteid and 5 grams of fat. Six eggs, therefore, contain 51 grams of proteid, enough for a day's minimum ration, in addition to 30 grams of fat. Some years ago, an article appeared entitled "The Fable of the Egg," in which the author advised the use of 20 or more eggs a day, largely in a raw state, as an excellent ration. The use of the word "fable" was unintentionally appropriate. Obviously, any such number would afford a ration excessive in proteid and high in fat and, although the number of calories is nearly correct in theory, if two dozen eggs are taken, the lack of carbohydrate is not to be lightly considered. Raw egg-albumin is not always assimilated and, in such amount, would be liable to be excreted by the kidneys as a foreign substance. It is doubtful if eggs have the aphrodisiac power popularly attributed to them. While eggs are easily counted, it is worth while to remember that, in the form of a light omelet, two eggs make more show than four scrambled. Hard boiled eggs are quite easily digested, especially the whites. Indeed, pretty nearly every popular idea about eggs as food is incorrect.

*Group 9.*—Milk varies considerably in different animals, referring both to species and individuals. Cow's milk contains approximately 4 per cent. of each kind of organic nutriment. Cream contains about 3.5 per cent. each of proteid and carbohydrate and from 20 to 25 per cent. of fat. Cheese contains 25 per cent. of proteid, 30 per cent. of fat and only 5 per cent. of carbohydrate, differing according to kind. When sterilized by cooking, cheese is an excellent article of diet, even in the much maligned form of Welch rabbit (not rarebit). Milk is an exceedingly bad diet for patients, on account of its liability to tuberculous infection, colon bacillus infection with production of tyrotoxicon, saprophytic contamination, poverty in iron, the improper distribution of its organic nutriments for adults, its tendency to coagulate into indigestible masses, the large amount necessary for anything like adequate nutrition by calories, and the tendency to levulosuria when such adequate amounts are taken. Clinical typhoid is really, in many instances, a comparatively mild original infection, plus a fatal intestinal toxemia due to saprophytosis plus inanition, the last two items being directly due to milk diet. And yet, milk is almost indispensable in dietetics, if used with other foods and in moderation. The old rule of thumb, that a typhoid patient could be nourished on a quart of milk a day is almost homicidal. Five feedings daily of milk, variously modified, as in the form of weak coffee and cocoa, 250 c.c. to each feeding, with four soda crackers or other bread stuff at each feeding, is al-

most a theoretically ideal ration, except for the lack of iron, which can be compensated by the occasional use of meat extracts.

Milk and eggs together, as eggnog, with or without whisky, or as baked or boiled custard, and preparations with salt and not sugar, approaching the omelet, the German pancake and one form of Welch rabbit, are highly nutritious.

### QUANTITATIVE ESTIMATION OF DIET.

In estimating a dietary quantitatively, we have two clinically applicable methods, one in which convenient units are counted, the other in which actual weighing is used. The former is obviously less accurate but is more convenient and, in the case of travelers, business men and residents of boarding houses and hotels, is the only one available. The dietary under this method need not be so very restricted.

Milk, cream and salad oils may be measured by cupfuls or glassfuls or spoonfuls, respectively. An ordinary tumbler or coffee cup contains about 200 c.c. when filled to the customary degree. A tablespoon holds about 15 c.c., a teaspoon 5 c.c. Cane sugar averages 6 grams to the lump.

Crackers are quite uniform for each kind and the number in a pound (about 470 grams net) may be counted. Small round Jersey crackers, weight about 6 grams, soda crackers, from 22.5 to 25 grams. Hard rolls weigh very nearly 60 grams, equally divided into two parts. Shredded wheat biscuits weigh 30 grams, or 3 of proteid, 2 of fat and 20 of carbohydrate to each.

Eggs have already been discussed. In the case of omelet and scrambled eggs, the patient can inquire how many are served.

Bananas average about 3 grams of proteid and 9 of carbohydrate each.

Tea and coffee can be estimated by the milk or cream and sugar added. Chocolate and cocoa contain an appreciable quantity of all three prime nutriments but, as ordinarily served, so little is used that we may neglect this and inquire whether the beverage is prepared with all milk or half milk and half water and add only the equivalent of a lump of sugar to our estimate, as for tea and coffee.

A lamb chop contains about 30 grams of lean meat, 20 in the round part, 10 in pickings. The fat ought not to be eaten by any one under dietetic restriction. A thin cut of rolled roast beef weighs about 25 grams. A small potato, less than is usually served, weighs 50 grams.

Fruit sauces may be estimated by bulk, allowing 25 per cent. of sugar, including that added.

An average slice of round bread, Vienna, French or rye, weighs about 25 grams. A small serving of butter weighs from 10 to 15 grams.

The above unit dietary, allows a fairly accurate estimate of the amount ingested to be made by any reasonably intelligent patient who will accustom himself to the size of cuts of meat, servings of potato, etc., of known weight and it is quite liberal in variety. Then, too, the innutritious relishes may be allowed if no contraindication exists. Clear soups are almost lacking in nourishment and, in many cases, even pie, cake (estimated as bread plus 10 per cent. of sugar) string beans, peas, etc. may be added and the amounts of nutriment partly calculated from tables and partly guessed at.

When we can reach the kitchen authorities, we may also estimate the content of average servings of ice cream, gelatin desserts, etc. The arithmetic computation is not difficult though it must be made in two steps. For example, counting pints at 500 c.c. each, the error being quantitative and not proportionate, so that it is negligible, we may estimate the nutritive content of a serving of ice cream as follows, following a given formula:

| | Grams. | | |
|---|---|---|---|
| | Proteid. | Fat. | Carbohydrate. |
| Milk, 500 c.c. | 20 | 20 | 20 |
| Cane sugar 750 grams | .. | .. | 735 |
| Wheat flour, 25 grams | 4 | .. | 14 |
| Cream, 1,500 c.c. | 52 | 300 | 52 |
| Four whole eggs | 34 | 20 | .. |
| | 110 | 340 | 821 |

Ordinarily, about 125 c.c. of ice cream are served to a person, 200 c.c. being a liberal dishful for a small boy. Thus, we may estimate the serving at 5.5 grams of proteid, 17 of fat and 41 of carbohydrate.

In estimating home dietaries, a special supply of salt, sugar, butter, a package of any cereal, a given loaf of bread, etc., may be reserved for the patient and the consumption for a period of a week or so may be brought to a daily average. Candy, an excellent article of food in many conditions, may also be reserved for the patient and the sugar estimated at about 400 grams for each pound of candy. If the candy is home-made, the exact proportion of sugar and other ingredients may be determined. So, too, shelled nuts which are rich in fat and proteid may be weighed in bulk and the exact nutritive value calculated from tables. Even popcorn, if the hard seed coats be excluded, is an excellent addition to the invalid's diet.

The method of estimating diet by weight and measure can often be carried out by the patient, who may, indeed, actually be diverted by the occupation, though certain nervous invalids must have this done for them, the remnants of food being subtracted from the servings. Patients seriously ill, usually are best placed on a simple dietary which can be still more easily estimated by the nurse, even if she is an amateur of reasonable intelligence.

If economy is necessary, any fairly ingenious person can make a pair of scales that will balance to the fraction of a gram, out of light metal jar covers, connected to a metal bar about a foot long that has smoothly drilled in it a central hole and two others at equal distances near the ends. Silk threads or fine, soft metal wires may be used for suspending the pans and the beam, or the latter may revolve on a smooth pin. Five gram weights of considerable accuracy are furnished by the U. S. Government at a cost of five cents each and are legal tender when no longer needed as weights. I refer to new nickels. Graduates can be made of tumblers or olive bottles, marked by strips of adhesive plaster or by a file scratch. No difficulty need be feared from the use of the metric units as only the gram and c.c. need be used. Indeed, while the patient is familiar with the name ounce, he usually has not the faintest idea of how much food or drink it represents and, with regard to ordinary viands, the physician is not much better informed. Here is an appropriate place to confess that this paper has been prompted by the rather recent realization that, after writing a book on dietetics, and giving considerable attention to the subject, I had very vague ideas as to the weights of most ordinary articles that I was eating daily.

The patient or nurse should prepare for the physician a diet sheet in which the meals and days are clearly lined off from one another. For each meal there should be placed at the left the names of the articles eaten and drunk, then their quantities, then in three other col-

umns, the amount of proteid, fat and carbohydrate contained, as shown by food analyses obtained from any standard text-book. A surprising number of well-educated adults will state that, knowing the number of grams or c.c. and the percentages of each of the three organic nutrients, they can not calculate the latter in grams. But if the diet sheet is prepared in blank, the physician can easily add these latter, get their totals for the day and suggest additions or omissions necessary to make the diet conform to the desired standard for the particular case.

## DISCUSSION.

DR. H. STERN, New York City, said that Dr. Benedict evidently is an adherent of the dietary standards laid down by Chittenden. No doubt that Chittenden is correct in making his experiments. It has become a fad to give less food. As a matter of fact, Chittenden speaks of proteid values which certain foodstuffs present. By ingesting that certain foodstuff we do not get the proper amount of calories. Therefore, if we speak of food values and say that a certain human being eats 20 calories for each kilogram of his weight, it is understood that we mean liberated calories and not raw calories. For instance, a lump of sugar, that is not saccharum. It contains some water. Water has no caloric value whatever. We speak of elaborated calories; not calories which are ingested, but calories which are absorbed, and not foodstuffs which produce a certain amount of indigestible material. Dr. Stern said that egg albumin is different from serum albumin, and that whenever more than five or six eggs are taken egg albumin is found in the urine. Yolks can be well tolerated. A man can take 20, 30 or even 40 eggs daily. It is essential in cases of under-nourishment that material is fed which does not leave any of the fat acids. This is the only one that does not give fat acids. Dr. Benedict, he said believes what von Noorden teaches, that acetone substances are diminished by the ingestion of carbohydrates. Certainly, in the case of oatmeal, which does not yield any of the low fatty acids, this is true. If we have fat substances, which von Noorden recommends, even in these substances we have the production of low acetone substances, such as butter. By not taking these butyric substances the formation of the acetone substances is prevented; therefore, the best substitute would be fatty matter which does not contain oxybutyric acid. Therefore, the yolk of the egg is the best substitute we can have.

DR. WILLIAM R. WHITE, Providence, R. I., cited the case of his son, who has presented a very peculiar dietetic problem. He has been called a dietetic crank by all who know him. His chief peculiarity has been that he has not eaten meat; nor has he been a vegetarian, because he has not eaten vegetables. It was absolutely impossible to get the boy to eat ordinary foods so far as meats and vegetables were concerned. The banana has proved an important element in the boy's diet. Many days he will eat from eight to ten bananas in the course of the day. Dr. White said that ordinarily, if the boy has the opportunity, he will take a shredded wheat biscuit and crumble it, add two or three perfect bananas sliced, pour over it a large quantity of the best milk and a moderate amount of sugar, and that combination he will take three times a day. He has been doing it for years. He seems to be in perfect health; has excellent color, splendid teeth, and is most uniform in his temperament. He never complains of heat or cold, and is a splendid sleeper. He proves by his individuality and his physique that his instinct has been a safe and good guide.

DR. E. B. FULLERTON, Columbus, Ohio, stated that it is very hard to get patients always to trust to diet, and there are reasons why one can not put this sort of dietary into operation. In hospitals and with rich patients it may be effected, but in the country there is not this great number of foods to select from. The extreme of this, perhaps, is Hudson Bay, where people have only two or three articles of diet. In regard to the limit of diet, Dr. Fullerton said that one can not limit everyone in the character or amount of food taken.

DR. A. L. BENEDICT, Buffalo, stated that Dr. Chittenden's experiments were conducted with the purpose of ascertaining the minimum proteid ration necessary to maintain nitrogen equilibrium, with an abundant ration of fats and calories. In interpreting them he has unquestionably been influenced to some degree by personal factors, that is to say, the requirements of a fairly sedentary, intellectual rather than physical, life, and it must be borne in mind that he has used tobacco and coffee freely, though not excessively. It is doubtful whether, without these dietetic adjuvants, he could have been quite so abstemious in proteids. Some of his critics and adherents, he said, have also made the mistake of supposing that he intended to apply to the standard physiologic man the proteid ration which he has found possible for men of less than the average size, performing less than the standard amount of exercise. While the conditions of his experiments are beyond criticism as regards accuracy of observation, duration of the tests, hygienic surroundings and gradation of exercise according to the habits of the individual, it must be remembered that two factors, present in the ordinary strenuous life of to-day were, in the main, minimized: viz., sexual function and worry as to self-support.

So far from dissenting from the possibility of living on Chittenden's minimum proteid ration, Benedict found that his own diet, chosen entirely by appetite, except for the endeavor to hold his weight down by eating very sparingly of plain foods for which he does not especially care, conforms very closely to Chittenden's, allowing for differences in weight and amount of exercise. At the same time, while admitting that the earlier standard dietaries were high, especially in proteid, he does not believe that proteid alone should be singled out for abstemiousness, nor that it is necessary to adhere to the minimum ration required to prevent nitrogen deficit. He thinks that the matter of diet should be regarded very much as is that of clothing. A certain amount of clothing may be required to prevent freezing or being arrested, but there is no objection to exceeding this amount to a reasonable degree.

Regarding sugar, Dr. Benedict has recently taken pains to inquire of a chemist, to be sure that he had made no mistake. Commercial white sugar is nearly 99 per cent. pure and there is absolutely no water of crystallization. A small amount may be present as moisture. Of course, candy, for economic reasons, contains all the water it can hold, but good candy usually consists of at least 80 per cent. of sugar. In regard to the white and yolk of egg: While the yolk is ideal as a food rich in proteid and fat, many persons can not tolerate it. The white is, at least, not disgusting.

Regarding acetonemia and allied problems, he does not in the least understand why this proverbial 80 grams of carbohydrate is necessary to prevent the formation of toxic amounts of fatty acid products. He emphasized the fact that in diabetes the fat ration must not be run too high, and placed 150 grams as the maximum for most cases. Bananas may be used to supply the proteid and in nearly ideal ratio to carbohydrate. But, in order to introduce 50 grams of proteid, about 1,050 grams of peeled banana or, say 23 average specimens, would be needed. This quantity would contain a little more than 200 grams of carbohydrate. Practically, so large a quantity of cellulose would be introduced that there would be a great deal of waste in the bowel, not to mention the mechanical disadvantage, fermentation, etc. Still, it is necessary to consult the tastes and idiosyncrasies of each individual.

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**Escape of Cerebrospinal Fluid Through Ear with Intact Drum.**—Lewin reports in the *Allg. med. Ct.-Ztg.* for October 6 the case of a girl of 14 who fell against a stove and must have fractured the base of the skull where it forms the wall of the outer auditory canal. No rupture at this point could be detected in the swollen soft parts, but cerebrospinal fluid flowed freely from the ear, in amounts reaching 2 to 3 liters a day for several days. A remarkable feature of the case was the absence of symptoms referable to this great loss of the cerebrospinal fluid, the constant wetting being the only complaint. He knows of only one similar case on record. The amount grew gradually less until the flow ceased entirely by the end of the third week.

# THE DIET IN ALBUMINURIA.*

## A CLINICAL-EXPERIMENTAL STUDY.

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Albuminuria is nothing but a symptom of disease. The cause of the symptom may be anterenal, renal or postrenal, and may be due to structural change or to pathologic function. Postrenal albuminuria, an admixture of various adventitious proteid substances with the urine after this has left the renal tubules, does not come within the scope of the subject under consideration. In the case of anterenal or renal causes, it is the albumin of the serum, or rather albumin having passed through the circulation which has found its way into the urine. We are perfectly justified in accepting anterenal factors of albuminuria when we are confronted with a large albumin output without corresponding kidney lesion as shown by the presence of goodly amounts of tubular epithelium. We may yet go a step further and maintain that native serum albumin occurring in normal amounts can not be eliminated, even by a structurally altered kidney, and that the serum albumin we meet in the urine has undergone physical and chemical transformation prior to its passage through the renal organs.

Hence, the real factors of albuminuria may antedate any renal anomaly. At any rate, it seems dubious whether or not the kidney alone can ever be the starting place of albuminuria. If the kidney itself is not the primary or true cause of the albuminuric symptom, what is the use of applying renal therapy for the elimination or suppression of the albumin? How little that plan of treatment avails in this respect is a matter of every day experience. Again, another question looms up: Shall we endeavor to combat the albuminuria at all? Is its reduction or cessation a signal of bodily improvement or is the albuminuria a compensatory phenomenon, a friend in disguise?

These few words may suffice as introductory remarks to the following recapitulation of my first series of clinical-experimental studies concerning the influence of diet on the degree of intensity of albuminuria. This series of observations was made on 82 patients, affected with various diseases, of which the phenomenon in common was continued excretion of serum-albumin, so-called, with the urine. In this series of observations my sole object was to determine the influence of certain types of nutritives and ingesta, not on the underlying disease, but on the accompanying chronic albuminuria. I may add that, according to the clinical conception of to-day, every one, or nearly every one, of these underlying diseases would have been classified as belonging to those of the kidney.

The albumin determinations were made in all instances with the 24 hours' urine, and were started 48 hours after instituting the diet, and by means of Esbach's albuminometer, which, although inexact, is accurate enough to point out the fluctuations of the degree of the albuminuria.

### PROTEIDS.

Prior to the addition of the various other proteid-containing ingesta to the nutriment of the albuminuric, the latter was kept on an exclusive milk regimen for two weeks. According to the weight, the daily consumption of milk amounted to from three to four liters, which represents an intake of from about 100 to 140 grams of albumin. In a few instances the milk was abruptly withdrawn, to be at once replaced by other nutritives yielding, besides the necessary carbohydrates and fats, from 70 to 100 grams of proteid material. In the great majority of cases, meats, fish and eggs were gradually substituted for the milk, the replacing process taking on the average about two weeks. Individuals weighing from 100 to 115 pounds ultimately received 70 grams of albumin a day, those weighing from 115 to 130 pounds, 80 grams, those from 130 to 145 pounds, 90 grams, and all whose body weight exceeded 150 pounds received 100 grams. The daily amount of proteid was then usually obtained from two or three eggs (never in the raw state), from mutton or chicken, and principally from beef. The eggs, as a rule, were partaken of at breakfast, the meats, in about equal portions, at the midday meal and at supper. To prevent renal irritation meats of young animals and organs yielding large amounts of nucleins, as veal, lamb, liver, kidneys, sweetbreads, etc., were omitted.

The following observations were made:

1. In 21 individuals a two-weeks' exclusive milk regimen and bed-rest were followed by diminution of the albuminuria in 16 instances, by its complete cessation in 2 instances, and led to no material changes in the remaining 3 instances.

2. In 36 individuals a two-weeks' exclusive milk regimen and moderate bodily exercise were followed by diminution of the albuminuria in 5 instances, by its complete cessation in no instance, by no material changes in 29 instances, and by distinct augmentation in 2 instances.

3. In 25 individuals a two-weeks' exclusive milk regimen, without any restraint as to exercise and work, was followed by diminution of the albuminuria on one occasion, but for a very brief period only, by no pronounced changes in 18 (respectively 19) instances, and by more or less increase in the remaining 6 instances.

4. In two individuals at bed-rest the sudden withdrawal of milk and the substitution therefor of meats, fish, and eggs (and carbohydrates and fats) remained without noticeable influence on one patient, but caused a marked augmentation of the albuminuria, subsiding after about 36 hours in the other.

5. In 16 individuals at bed-rest the gradual withdrawal of milk and the corresponding addition of meats, fish and eggs (also carbohydrates, etc.), was followed by transitory augmentation of the albuminuria in one instance, by no pronounced changes in 12 instances, and by a more or less permanent decrease in 3 instances.

6. In 4 individuals performing moderate bodily exercise the sudden (unauthorized) replacement of the milk regimen by proteids, mainly derived from meats (and carbohydrates, etc.), remained without noticeable influence in any case. (Seen from 2 to 8 days after institution of meat diet.)

7. In 29 individuals performing moderate bodily exercise the gradual replacement of the milk by other proteid nourishment (and carbohydrates, etc.), was followed by transitory augmentation of the albuminuria in 5 instances, by permanent augmentation in no instance, by no distinct alteration in 20 instances, and by a more or less permanent diminution in 4 instances.

8. In 1 individual attending to his usual vocation the sudden replacement of the milk by other proteid ingesta remained without any influence on the degree of intensity of the albuminuria.

* Read in the Section on Pharmacology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

9. In 30 individuals who devoted approximately the usual amount of bodily and mental energy to their occupations, the gradual withdrawal of milk and the corresponding addition of other proteid ingesta, were followed by transitory augmentation in 1 instance, by no distinct alteration in 23 instances and by a slight diminution in 2 instances.

10. The only individual in whom supervened a permanent augmentation of the albuminuric symptom on changing from milk to other proteid food was affected with atheromasia, chronic parenchymatous nephritis and diabetes mellitus.

### CARBOHYDRATES AND FATS.

From three to four liters of milk contain on the average from 135 to 180 grams of lactose and from 120 to 160 grams of fat. The albuminurics subsisting for two weeks on an exclusive milk regimen obtained every day, therefore, from about 550 to 750 calories, which were elaborated from the carbohydrate, and from about 1,100 to 1,500 calories which were yielded by the fat. Exclusive of the proteid, they ingested therefore enough nutriment to yield from 1,650 to 2,250 calories a day.

When the milk was replaced by other food stuffs, not the proteids alone were reduced, but the supply of the carbohydrates and fats were curtailed from 10 to 25 per cent. This was done, first, so as not to overtax the patient's digestive powers, second, to reduce the intake of water which runs parallel to that of carbohydrates and fats, and, third, because the energy evolved from the nutriment was deemed sufficient not only for those at bed-rest and moderately occupied, but also for those who attended to their routine work. Of course, the greater carbohydrate and fat reduction (from 15 to 25 per cent.) was made for the individuals at bed-rest and those performing little work, the smaller reduction (10 per cent.) for those who had not discontinued their usual mode of occupation. Gradually the carbohydrates and fats, like the meats, fish and eggs, were made to replace the exclusive milk regimen. The instances in which the change from the one to the other regimen occurred abruptly have already been mentioned. In a number of instances from 200 c.c. to 600 c.c. (and in a few cases even larger amounts) of milk were continued to be ingested after the exclusive milk regimen had been discarded; this fact, however, was taken into due consideration in every instance. The carbohydrates made use of were mostly wheaten bread, cereals, potatoes and sugar, the fats, yolks of eggs, olive oil and suets.

The following observations were made:

1. The commonly employed carbohydrates and fats, consumed in amounts which do not overtax the functional capacity of the various digestive organs and which, at the same time, yield sufficient energy to prevent disintegration of the body substance, do not exert any other influence on the degree of intensity of the albuminuria than the carbohydrates and fats contained in milk.

2. There is no evidence whatsoever that the commonly employed carbohydrates and fats exert any participating influence on the production or on the rise and fall of the albuminuria.

3. In the albuminuric the carbohydrate-fat-proteid ratio may be practically the same as in the healthy individual but that it appears to be advantageous to reduce the *entire intake* from 10 to 25 per cent.

### WATER.

The patients who ingested from three to four liters of milk a day imbibed thereby in the neighborhood of from 2,580 to 3,440 c.c. water. This is rather a large amount, larger than it probably ought to have been in certain instances, especially in those of contracted kidney. However, if milk is to be the sole or the main nutriment in albuminuria, as has been the dictum of nephritis therapy, this surplus of water can not be averted. Some years ago, v. Noorden advocated a decided reduction of the water intake in nephritides. His own pupils, Mohr and Dapper, however, have shown that if but 1,250 c.c. of water are taken daily, the degree of the albuminuria would become perceptibly increased and that practically the amount of water to be imbibed each day should not fall short of 1,500 c.c. In this series of dietary experiments 35 c.c. of water a day for each kilogram of body weight were allowed the patient. A further reduction of liquid would have resulted in a disturbance of the intrasystemic equilibrium. A patient weighing 60 kilograms (132 pounds) received therefore 2,100 c.c. of water daily.

The ingestion of water, or weak unsweetened tea, was begun when some of the milk had already been withdrawn, generally three or four days after starting the gradual admission of the other food stuffs.

The following observations were made:

1. Water, in large amounts, as imbibed with an exclusive milk regimen, enhances diuresis and intestinal peristalsis and that it is often productive of, or is keeping up, various gastrointestinal disorders.

2. The larger water intake, that is, up to 3,500 c.c. a day, neither increases the degree of intensity of the albuminuria, nor augments the absolute output of the urinary albumin in the vast majority of instances.

3. If smaller amounts of water, that is, 35 c.c. a day per kilogram of body weight, are taken, the intensity degree of the albuminuria may become temporarily augmented, and after one or two days the absolute amount of urinary albumin is approximately alike to that when larger amounts of water are imbibed.

4. In the treatment of albuminuria *per se* the maximum amount of water which may be taken is of little practical importance unless an advanced heart or kidney disease or some gastrointestinal disorder, demands an adjustment; and the minimum amount of water must never be less for any length of time, than that which is essential for the performance of the intrasystemic osmotic processes.

### DISCUSSION.

DR. ALFRED C. CROFTAN, Chicago, stated that in discussing the subject of albuminuria it is important to realize that albumin is determinable in every urine. In other words, albuminuria is a physiologic phenomenon. An increase of the normal urinary albumin occurs in so many conditions that are more or less independent of renal disease, that it is important to study the manifold origin of this symptom before undertaking to treat it. In many cases albuminuria is a symptom more of cardiovascular disorder than of renal disorder. In other cases metabolic disturbances, which lead to the flooding of the blood and tissue juices with abnormal products of intermediary metabolism, lead to renal irritation and albuminuria. In still other cases the albuminuria is due to digestive disorders, pure and simple. In none of these forms can one speak of a nephritis.

That there is really an alimentary albuminuria is made clear by the following facts: It can be demonstrated that certain albumins given by mouth promptly reappear in the urine. It is a well-known fact that the injection into the

peritoneal cavity of a guinea-pig or of a rabbit of a certain amount of egg albumin, bestows on the serum of the animal the property, after a number of weeks or months of these injections, of forming specific precipitins in the test tube when mixed with egg albumin. If, now, a serum prepared in this way is added to the urine of an individual who has been given from ten to twenty eggs to eat in twenty-four hours, especially if the individual is suffering from a dilated stomach, then a specific precipitin reaction will promptly appear. This is positive proof that the egg albumin as such was absorbed, passed through the blood and reappeared in the urine. From the life-insurance standpoint this test is very important. As far as the circulatory element in many forms of albuminuria is concerned, Dr. Croftan stated that it will frequently be found that the excretion of albumin proceeds pari passu with changes in the blood pressure. The albuminuria due to metabolic derangements is renal in the sense that some irritation of the renal parenchyma by abnormal chemical products must be incriminated with producing the albumin excretion.

In interpreting albuminuria and in attempting to treat it rationally, physicians should depart from the purely renal standpoint, unless there is distinct morphologic evidence in the urinary sediment of renal disease, and bestow more attention on the treatment of the individual.

Dr. Croftan said that for a time he was an enthusiastic disciple of von Noorden's teachings in regard to drink restriction in nephritis. However valuable this method of treatment may be in that type of true nephritis in which the renal affection is only a part phenomenon of a general cardiovascular disturbance, the restriction of the liquids is, of course, eminently rational, for here the heart should be treated rather than the kidneys. In many other forms of nephritis, and especially in the forms of albuminuria without nephritis, drink restriction may, however, be quite useless, if not detrimental; for in the latter category of cases it is quite important that the circulating toxins should be diluted properly and that they should reach the kidneys in as low a concentration as possible. Inasmuch as the disturbances about the cardiovascular apparatus in this type, especially stenocardiac attacks, and other consequences of high blood pressure, are frequently produced by the circulation of toxic bodies that fail of proper elimination through the kidneys, it is especially important, in order to prevent serious cardiovascular complications, to administer plenty of water. The advantages accruing from this practice, he said, fully overbalance any theoretical disadvantages that one might imagine to accrue to the heart and arteries when they are forced to pump large quantities of liquid; in fact, sometimes, paradox as it may seem, the blood pressure will be found to go down when large quantities of water are given.

Dr. A. L. Benedict, Buffalo, asked whether, in obesity, there is an analogue to the hyperglycemia not directly due to alimentation. In regard to the use of water, whether trying to make the body take up a dropsical effusion or extrude toxins, he has been struck by the impossibility of forcing any endeavor by drastic measures. He has found it a good plan, in cases of chronic Bright's, to have the patient occasionally spend an afternoon or evening drinking two or three liters of water, as hot as can be tolerated, flavored with salt, lemon or whatever the patient likes. He asked Dr. Stern whether his statements of the amount of albumin are in parts per thousand or are they quantitative for twenty-four hours. Dr. Benedict uses the centrifuge method, after simple boiling, for estimating albumin in urine. There often is more toxemia in cases showing only 1 per cent. of albumin by bulk (about one-sixth as much by weight) than in those with more albumin. The highest reading he has gotten has been 6 per cent. albumin by bulk, or about 1 per cent. by weight.

Dr. H. C. Wood, Jr., Philadelphia, thought that water plays more than one rôle in cases of renal disease. Acute cases of nephritis are usually due to the presence of some irritating substance circulating in the blood. It is only reasonable that these irritating substances will become less irritating the more they are diluted. This is a well-known pharmacologic fact about which there can be no doubt. As regards the effect of the water which enters the blood, it is commonly believed that any excess of water which comes into the blood must escape through the kidneys, and yet the evidence of this is not at all convincing. A year or two ago he repeated some experiments which had been done many years ago by Magnus concerning the effects of large amounts of physiologic salt solution on the blood and the excretory apparatus. It is possible to inject into the animal the amount of salt solution equal to the body weight of the animal, without very markedly increasing the blood pressure. This excess of fluid does not escape in any great part from the kidneys. Four-fifths of the salt solution escaped from the body through some other channel, probably the intestinal tract. In every case in which he used the salt solution he found the intestine filled with fluid. Two things are evident: First, that the large amounts of water ingested do not increase the blood pressure, and that the vessels are capable of taking care of an enormous amount of fluid. In the conditions he described the percentage of hemoglobin fell to 60 per cent., that is, the blood was diluted to one-half its concentration—the albumins and other organic constituents of the blood were equally diluted, showing that there is a true dilution of the blood, and presumably a dilution of any toxic substance in the blood. The effect of this large amount of water, he said, seems to be a double one: It dilutes any irritant substance circulating in the blood so that there will be a lesser irritation of the kidney; second, it encourages elimination through the intestinal tract, which thereby spares the kidney a large amount of work and permits an attempt at recovery from irritation.

Dr. H. Stern, New York City, recalled two or three articles detailing certain work, giving positive proof that egg albumin passes through the blood and is excreted again as such. Whether there is an increased amount of serum demonstrable in the blood serum, he said, can be determined only by the electric measure. There is no ionic movement. In uremia there is a hyperosmosis. Hyperglycemia can be spoken of. As to the examination of the urine, Dr. Stern said the simplest test is the best. He has used the acid tests and Esmarch's, which is no good, excepting for fluctuations. It is the absolute amount of albumin which is thus measured in twenty-four hours. In this way simple experiments have been undertaken to find out whether the excretion of albumin has been increased by certain diet, and the result of these studies has been to show that proteid materials have very little aggravating influence on the intensive degree of the albuminuria.

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## NOSTRUMS AND FRAUDULENT METHODS OF EXPLOITATION.

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WASHINGTON, D. C.

(*Concluded from page 1550.*)

### *LOST MANHOOD RESTORERS AND NERVOUS DEBILITY CURES.*

#### "AMBALINE."

This is a mixture of camphoraceous water and ammonia water in which are dissolved ammonium carbonate, ammonium chlorid, sodium sulphate and chlorid. This lotion is to be applied to the affected part and is claimed to possess miraculous powers. The action of the lotion is simply that of an irritant which increases the blood supply to the parts.

BRADFORD & CO., CINCINNATI.

This company announces:

A Complete Treatment for the Cure of Nervous Debility, Loss of Memory, Dizzy Head, Sexual Weakness, Premature Old Age, Impotency, Weak Back, Confusion of Ideas, Eruptions on the Face, and All Diseases of the Sexual and Generative Organs.

The company also claims to be able to develop shrunken organs and permanently cure varicocele. The medicines used are claimed to be the very latest and best known to science and never used by quacks on account of their ignorance and the high price. The general scheme employed is to advertise an alleged free cure for lost vitality, sexual debility, etc. When responses are received the party is mailed a letter, enclosing a circular giving the prescription. The circular represents that the prescription is the result of the studies of two learned scientific men, one a successful practitioner for over forty years and the other a manufacturing chemist of thirty years, both men standing without peers in their profession. An investigation showed that the learned practitioner of over forty years' experience belonged to the quack school, and the chemist was without reputation. The prescription was written expressly for this scheme. It had hardly been given a trial. Mr. Bradford, the sole active member of the company, has no medical knowledge whatever.

The exaggerations are similar to those employed for schemes of this type. The following quotations are representative:

Nervous Debility can be cured with the specific remedy. . . . The Result of Forty Years' Practice in curing these diseases, a tested and time tried prescription. When you consider you are getting the result of over forty years' successful practice you are very fortunate and will make no mistake if you stick to this treatment.

These statements and the connections in which they are used are designed to create the impression in the minds of the readers that this medicine, by reason of the long time in which it has been developed through actual practice, possesses peculiar efficacy and value and is not commonly known or usually prescribed in the treatment of these conditions. This impression is entirely false and not warranted by the facts of the case. When Mr. Bradford commenced his business about four years ago, he sought out the physician and obtained from him an ordinary prescription for the treatment of this class of diseases. The physician from whom the prescription was obtained had no more than the usual knowledge and ability with respect to these diseases, and had no more than ordinary (if ordinary) ability. The circulars giving the prescription also contain quotations from the writings of many doctors so selected and changed as to cause the reader to believe that they were written particularly for the medicines employed in this scheme. As a matter of fact, the writings were not made with reference to these medicines, nor were they intended by their authors to be used as they are being used, and their use in this manner is entirely unauthorized and is intended to deceive and mislead.

The company's literature also represents that the medical profession endorses the medicine. As a matter of fact, the medical profession knows nothing of the composition of this medicine; therefore, it is unreasonable to say that the profession endorses it. An investigation shows that the medicine consists of one of the many forms of aphrodisiac pills.

### "CACTUS PRODUCTS."

These remedies are exploited by the Cactus Product Company, Philadelphia, and consist of "Cactus Lecithin Tablets," "Cascarin Tablets" and "Cactus Lecithin Salve." It is represented that the above medicines will cure all vital weakness, nervous debility, atrophy, varicocele, and all affections of a similar type. The name "Cactus" itself is a misnomer, inasmuch as no cactus product is contained in any of the preparations enumerated. "Cactus Lecithin Tablets" contain ordinary ingredients, such as are commonly employed by the medical practitioner in the treatment of nervous debility, excepting lecithin. The "Cascarin Tablets" are representative of the many laxative tablets on the market. The mixture for which the great claims are made is the "Cactus Lecithin Salve," which contains the following ingredients:

Lecithin, fluid extract of damiana, celery seed, capsicum, and extract of rose geranium.

Mixed into a suitable salve with enough petrolatum and paraffin wax.

The action of the salve is secured by applying it to the affected part. Virtually the only active agent in the salve when thus applied is the capsicum, the lecithin and other constituents being practically useless under these conditions.

### "CALTHOS."

"The world's greatest remedy for the treatment of male affections." It is claimed to be imported by the Von Mohl Company, Cincinnati, Ohio. It is represented that the preparations used are those of Prof. Jules Laborde, an eminent French nerve specialist. The literature employed by this company is vulgar and misleading in every detail. The pills employed contain yellow phosphorus as the chief ingredient. The representations made by this firm were found on investigation to be unwarranted.

### "CUPIDENE."

This remedy is placed on the market by the Davol Medicine Company, San Francisco, and consists of red and white pills. An examination of these pills shows that the active constituents are red pepper, Spanish flies, mustard and bitter principle. It is represented to be a "Great Vegetable Vitalizer," discovered by one of Europe's most celebrated physicians and is claimed not only to relieve but permanently to cure all complaints and diseases of the sexual organs, such as lost manhood, impotency, varicocele, constipation, etc. Pictures portraying "before" and "after" treatment are also employed. It is especially held out as being of value to married people.

### "MORMON BISHOP PILLS."

The following are quotations from the literature:

This Remedy has been in use for fifty years by the heads of the Mormon Church and their followers. . . . Many men suffer from the evil effects of self-abuse, over-indulgence, excesses in use of tobacco and liquors, anxiety and worry. These bring on one or more of the following diseases: Lost Manhood, Nervous Prostration, Nervous Debility, Dizziness, Headaches, Indigestion, Loss of Will Power or Memory, Nocturnal Emissions, Pain in the Back, Loss of Semen, Impotency, Incapacity for Marriage, Sleeplessness, Spermatorrhea, Loss of Vital Fluids, Prematureness of Discharge, Varicocele, Atrophy, Hydrocoele and Constipation. . . . If you suffer from any of these symptoms take Mormon Bishop Pills and be cured before it is too late. . . . Do not become discouraged, no matter if you have tried many of the so-called cures. Take Mormon Bishop Pills and a cure is certain.

In this treatment three differently colored pills, red, white, and blue, are employed. The difference in color would lead to the belief that they are of different composition, but analysis shows that they are virtually the same in this respect. They belong to the general type of aphrodisiac pills.

"REGENERATIVE TABLETS."

Exploited by the Fallopia Lynn Company, St. Louis, Mo. It is represented that the tablets employed by this firm are such as will create a youthful feeling, dispel all bad effects of indiscretion, and are "A Regenerator and Tonic for Weak Men." An examination of the tablets shows that they are of a composition similar to that ordinarily employed by regular practitioners for tonic purposes, coupled with some of the recognized aphrodisiac agents. One of the active ingredients is strychnin.

"RESTORATIVE REMEDIES."

The parties exploiting these remedies have for various reasons changed the name of the company several times. It was at one time known as the Dr. Knapp Medical Company and at another time as the Dr. Raynor Medical Company. The scheme employed by the above companies is to advertise in newspapers that a Michigan specialist had discovered beyond a doubt "the most scientific and comprehensive treatment for the cure of sexual weakness, etc." This treatment is "sent free to all who apply in writing." In response to any letters received a number of formulæ with directions for taking medicines are sent to the prospective patient. This is as far as the free treatment goes. At the time of forwarding the prescription the patient is also informed that the company has forwarded to his address a complete treatment by an express company, to be delivered c. o. d. for $3.00 plus the expressage. The patient is also told that the charge for these medicines is less than the local druggist could prepare them for and at the same time the medicines are composed of the freshest and purest drugs. The company does not exactly obligate the patient to take the medicines, but the conditions are such that the patient is led to believe that it is decidedly to his advantage to accept the company's offer. From the method of doing business it can readily be seen that the company has no information relative to the disease with which the patient is afflicted, and, as a matter of fact, all diseases are treated with identically the same mixtures. The following is a list of the prescriptions employed by the company:

PRESCRIPTIONS SENT OUT IN RESPONSE TO LETTERS ANSWERING ADVERTISEMENTS.

Formula 1.

| | |
|---|---|
| Ext. gentian .....gr. | 1/2 |
| Ext. nucis vom....gr. | 1/10 |
| Ext. saw palmetto..gr. | 1 |
| Ext. damiana.....gr. | 1/2 |
| Hyoscine hydrobromate .....gr. | 1/200 |

M. et ft. pil. No. i, s. c. Ft.: No. xxx. Sig.: Take one pill after breakfast daily.

Formula 2.

| | |
|---|---|
| Muriapuama .....gr. | 1 |
| Ext. tritici.....gr. | 1/2 |
| Ext. sombul.....gr. | 1/2 |
| Ext. quassia.....gr. | 1/2 |

M. et ft. pil. No. i, s. c. Ft.: No. xxx. Sig.: Take one pill after supper daily.

Formula 3.

| | |
|---|---|
| Aloin ..... | 60/407 |
| Sugar ..... | 286/407 |
| Blaud's mass..... | 175/407 |
| Glycyrrhiza ..... | 286/407 |

M. et ft. tab. No. i, s. c. Ft.: No. xxx. Sig.: Take one tablet at bedtime.

COMPOSITION OF PILLS USED IN TREATMENT OF PATIENTS.

Formula A.

| | |
|---|---|
| Zinci phos.....gr. | 1/10 |
| Ext. nucis vom....gr. | 1/10 |
| Ext. saw palmetto..gr. | 1 |
| Ext. muripuama ..gr. | 1/2 |

M. et ft. tab. No. i, s. c.

Formula B.

| | |
|---|---|
| Ext. damiana.....gr. | 1 |
| Black Indian hemp.gr. | 1/4 |
| Ext. nucis vom....gr. | 1/10 |
| Ext. buchu .....gr. | 1/4 |

M. et ft. tab. No. i, s. c.

Formula C.

| | |
|---|---|
| Aloin ..... | 60/407 |
| Sugar ..... | 286/407 |
| Blaud's mass..... | 175/407 |
| Glycyrrhiza ..... | 286/407 |

M. et ft. tab. No. i, s. c.

Formula of Special Treatment.

| | |
|---|---|
| Strych. sulph.....gr. | 1/200 |
| Quininæ sulph.....gr. | 1/16 |
| Ferri reducti .....gr. | 1/2 |
| Arsenious acid.....gr. | 1/200 |

M. et ft. tab. No. i, s. c. Ft.: No. xxx. Sig.: Take one tablet just after each meal.

Formula D.

| | |
|---|---|
| Strych. sulph.....gr. | 1/200 |
| Quininæ sulph.....gr. | 1/16 |
| Ferri reducti .....gr. | 1/2 |
| Acidi arseniosi....gr. | 1/200 |

M. et ft. tab. No. i, s. c.

The above formulæ show, first, the differences between the medicines made according to formulæ sent would-be patients and the medicines actually used; second, that the several formulæ contain nothing but well known drugs, and, last, that the same or similar mixtures are used by most specialists in the treatment of male diseases.

At the time of the hearing the physician representing the company was asked for information respecting certain claims made by the company and in reply many interesting points were brought out. The literature represented that this firm had a novel way of developing the organs free, which consisted of a so-called "Developing Lymph, which is now very widely used in Europe and is finding staunch adherents in this country as well." The physician admitted that the company was not in possession of any lymph and to the best of his knowledge the representation was not correct. When asked for information relative to the claims made that the treatment was new and novel, and to show wherein the treatment was new and novel, he stated that his firm was the first to introduce muriapuama and hyoscine hydrobromate to the medical profession. When informed that muriapuama was brought to the medical profession's attention before the existence of the company he was unable to make further reply, and when his attention was also called to the fact that hyoscine hydrobromate had been known to the medical profession nearly twenty-five years, and prominently brought forward by Dr. Wood in 1884, he had no defense to make.

Before closing this item it seems desirable to note a few clauses of the suggestive literature used:

Unhappy Homes caused by Weakness in Men. . . . There are thousands of cheerless homes in this country filled with discontent and unhappiness, lacking in love and companionship through the sexual weakness and physical impairment of a man. . . . It (the medicine) creates an immediate social feeling of warmth and good nature, forces active blood to the muscular tissue, tones the nervous system and arouses bodily confidence.

DR. STEVENS & CO., COLUMBUS, OHIO.

The following are illustrative statements of this company's literature:

A new, scientific method of treatment for diseases of men. . . . Ten Days' Free Treatment Offered Men. . . . Treatment absolutely free to every man. . . . It is no "prescription," "deposit," or "C. O. D." scheme. . . . In addition to the absolutely free trial treatment, they send the most complete book ever written on the Diseases of Men, telling all, and fully illustrated with forty engravings from life. . . . After twenty-five years of scientific investigation we have discovered and developed the "Paris Food" and crayon treatment.

The wonderful method is claimed to have been discovered by the company's physician after long search and experimentation:

One of our physicians continued his researches in the city of Paris, France, assisted in his researches by a noted chemist, and finally succeeded in perfecting the "Paris Food" treatment.

The points claimed to be novel in the treatment employed by this company consist in the application of medicinal agents directly to the parts affected by

means of crayons, bougies, and urethral suppositories; the introduction of numerous new medicinal combinations and the use of the "Paris Electro-Medicated Crayons." The formulæ submitted were no less than twenty-seven, all of which are claimed to be used in the treatment of the company's patients. Some of the formulæ had specific names attached to them, such as "Gonorrhea Crayons," "Aphrodisiac Crayons," "Bougies," "Urethral Suppositories," "Bougie Ointment," "Rubefacient Ointment," "Pills" and "Tablets."

It was admitted at the hearing that the method of treatment was scientific but not new. The local application of medicinal remedies by means of bougies, suppositories and crayons has been used for many years. In the early sixties it was common for pharmacists to issue catalogues enumerating various kinds and forms of suppositories. The base employed by this company, namely, cacao butter, is not novel, inasmuch as it was introduced as early as 1852 and has been continually used since for the purpose of incorporating medicinal agents which are to be applied locally. Bougies, urethral suppositories and vaginal suppositories, all of which are frequently called crayons, have been public property for many years. In 1886 Messrs. John Wyeth and Brother, manufacturing chemists, issued a pamphlet on suppositories which contains numerous cuts and formulæ of the many suppositories then in use. It was clearly shown that Dr. Stevens & Company was not the originator of this form of medicinal treatment and that it was not the result of years of experience and the expenditure of thousands of dollars on the part of Dr. Stevens & Company that brought this form of treatment into existence, inasmuch as it had been in vogue many years before the company was organized.

The firm also contended that the combinations employed were new and novel. None of the formulæ submitted, however, contain anything but well recognized drugs. The special formulæ submitted may differ slightly in the number of ingredients and quantities from those prescribed by physicians of standing for patients similarly afflicted, and if such a difference could be called new and novel then some of these formulæ would come under that designation. The advertising literature also represented that the ingredients employed were rare and costly and had been used in the treatment of disease only for a few years. When the company was requested to point out the justification of this statement no satisfactory response was offered. The cuts employed in the literature also represent that some of the crayons employed are electrified and it is even stated that these crayons were "subjected to a strong current of electro-ozone," which makes them "act like a mild electric current." When the physician representing the company was informed that there was nothing recognized in the scientific world as a "current of electro-ozone," nor was it specified in any portion of the directions accompanying the formulæ for the manufacture of the remedies that these crayons were to be submitted to a "current of electro-ozone," and when asked for an explanation he simply evaded the question by answering that he had no knowledge of such an electrification and was not aware that the representation was made in the company's literature.

One of the remedies brought out by this company is the "Paris Food," which is claimed to be new, costly, and rare, and largely employed by European physicians. The formula submitted for this preparation is the following:

PARIS FOOD OINTMENT.

| | | | |
|---|---|---|---|
| Lanolin | 4 oz. | Menthol | 205 gr. |
| Benz. lard | 4 oz. | Cerasin | 1 oz. |
| Water | 4 oz. | Oil wintergreen | 150 min. |

When the physician was asked to point out the active ingredients in this remedy he indicated that menthol and oil of wintergreen were probably the most active, aside from the massage necessary in applying the ointment to the organs. It was ultimately admitted that "Paris Food" possesses practically no more virtue in the treatment of male diseases than ordinary cold cream.

Another very interesting feature employed by this company is found on a small brown envelope, which reads as follows:

> This envelope contains a strip of medicated paper. The properties of this slip are such that when it is dipped in the urine and dried, it can be chemically and microscopically analyzed and will show the stage of your disease.

The strip of paper is ordinary blue litmus paper and is therefore not a medicated paper. It is furthermore not within the power of any chemist or microscopist to analyze a strip of litmus paper when dipped in the urine and by this means to determine the condition of the patient. It is true the paper may indicate whether the urine is alkaline, acid, or neutral. It is a well known fact, however, that urine voided by the same individual at different times during twenty-four hours may at one time be acid, at another time alkaline, and at times both acid and alkaline to litmus paper. From this it can be readily seen that it is impossible for any one however skilled to make an examination of litmus paper that has been dipped in urine and by this means ascertain the stage of any disease. It also developed that this company did not possess a laboratory, did not make either chemical or microscopic analyses of urine, and no one in its employ was competent to make such analyses.

Some readers will probably wonder how pills, tablets and rubefacient ointments are used for local treatment. The company condemns the internal treatment of drugs in its literature, but in practice such treatment is resorted to and is employed in the form of pills and tablets. Some of the tablets contain one active ingredient, extract of capsicum, incorporated in sugar of milk. The directions for using same are to dissolve tablet in glass of water and apply to penis. The rubefacient ointment contains capsicum and is to be applied directly to the parts. As a side issue this firm claims to "treat and cure" diseases of the eye and ear, consumption, hip-joint disease, heart disease, paralysis, piles, cancer, chronic dysentery, gravel, dropsy, etc. The book referred to on the diseases of men, and used by this company in the furthering of its schemes, is one of the most immoral pieces of literature ever met with.

## "VITAL RESTORATIVE."

The English Restorative Company, Denver, employs under this heading two forms of pills, one consisting of licorice and extract of saw palmetto, and the other is a methylene blue pill. The virtue of the former undoubtedly resides in the saw palmetto, which is claimed by some to be useful in the treatment of sexual decline. The methylene blue pill is described below under the head of "Methylene Blue Fraud."

## "VITALA."

Remedies under the above name are exploited by the Vitala Company, managed by "Dr. Frederick Main," alias "Dr. NaMorg," Jackson, Mich. It is represented that the virtue of these medicines resides in a drug re-

cently discovered in the Philippine Islands and tested by this firm. An investigation showed that the drug to which the name "Vitala" is applied, is *Caesalpinia Bonducella*. Common names for this plant in the Philippine Islands are "Nigger Nut," "Molucca Bean," "Calambit," and in Porto Rico it is known as "Mato Azul." The nut of this plant undoubtedly possesses valuable medicinal properties, inasmuch as it is recognized by the pharmacopeia of India. Its value, however, depends on its tonic and anti-periodic properties. It also appears to act favorably in affections of the digestive tract, especially diarrhea. There is no information available in literature which would indicate that this nut possesses any properties excepting those here enumerated. There is certainly nothing in it which could be considered as a cure-all for the numerous sexual diseases claimed to be cured by the Vitala Company.

A careful examination of the advertising literature employed by this company and the formulæ submitted fails to show conclusively that even this drug was used in the preparation of the medicines. The only existing evidence is the representation made in the formulæ submitted that in certain prescriptions a minim of "Tincture of Vitala" was used for each pill. Exactly what "Tincture of Vitala" is could not be definitely ascertained. The formulæ submitted by the company at different times show decided differences and the products were frequently not of the same composition as represented by the formulæ. Not only was the above inconsistency brought out, but on reviewing one of the medicines on which great stress was laid, namely, "Vitala Developer," it was found to be absolutely devoid of this wonderful medicine derived from the Philippine Islands both according to the literature of the company and the formulæ submitted. The composition of this "Developer" as submitted by the company is as follows:

FLESH FOOD.—PHILIPPINE DEVELOPER.

| | | | |
|---|---|---|---|
| Oil citronella | 6 oz. | Hydrated lanolin | 45 lbs. |
| Menthol | 6 oz. | Cerasin | 2 oz. |
| Oleoresin capsicum | 4 oz. | Lard | q. s. to 60 lbs. |

The above formulæ clearly shows that the lauded "Philippine Developer" contains nothing but old and well known drugs. The marvelous Philippine drug is absent. The mixture is a simple ointment whose activity undoubtedly resides in the oleoresin of capsicum. This agent is frequently employed as a counterirritant of the male organs in nostrums.

"VIGORO."

The claims made for this remedy are similar to those already considered. The medicine consists of extract of nux vomica, buchu, damiana, oleoresin capsicum, and a phosphid. All of the above agents have been used for many years in the treatment of disease. There is therefore no basis for the statement that "Vigoro" is made from rare and expensive drugs. A pill of the above composition certainly would not cure syphilis, gonorrhea, gleet, hydrocele, varicocele or stricture.

"VITALITY PILLS."

This medicine is exploited by the Missouri Drug Company, St. Louis. The representation is made that the "principal ingredient is an animal extract taken from healthy young bulls," which "gives man the vigor and vitality of the bull." On examination it was found that the pills were simply of the aphrodisiac type and could not accomplish anything except what pills of this general type are usually represented as being capable of doing.

"YOUSOF'S SALVE."

"Dr. Yousof's Celebrated Turkish Ointment" is exploited by the Franklin Remedy Company, New York City. An examination of the sample submitted shows that it consists approximately of 80 per cent. petrolatum and 20 per cent. of a wax-like body, the mixture being flavored with rose geranium. The salve is simply to be applied locally to the generative organs.

*METHYLENE BLUE FRAUDS.*

The chemical, methylene blue, is frequently used by nostrum mongers under some fanciful name for the purpose of frightening would-be patients as to the actual condition of their health. Methylene blue possesses the peculiar property of turning the urine green when passed through the human system, the shade depending on the amount of drug used.

The English Restorative Company, referred to under "Vital Restorative," in its literature to its patients advises the patient to watch the urine closely and if anything unusual is observed by him to forward a sample of the urine to the company in question and an examination would be made of the sample, from the study of which the condition of the patient would be diagnosed and treatment instituted accordingly. While methylene blue may be utilized to some extent in diagnosing the condition of certain patients, the method employed above is certainly fraudulent to a degree.

Dr. L. R. Williams & Company, New York City, employs methylene blue in the treatment of lost manhood in the following manner: The methylene blue tablets, together with so-called "medicated cloths," are sent to the patient with instructions that after taking the pills, the "medicated cloths" should be dipped, at a suitable time after taking the pills into the voided urine, dried, and returned to the company. It is represented that when the cloths are received by the company they would be immediately examined and from the results obtained the patient's condition ascertained. The worthlessness of the procedure is indicated by the fact that the "medicated cloths" turned out to be simply strips of cheese cloth. In this connection it is only necessary to say that this procedure is absolutely valueless, inasmuch as it is not within the scope of the most skilful physician, chemist or pathologist, either singly or combined, to make such diagnosis as is represented above.

The Magic Foot Draft Company also employs methylene blue pills under the designation of "Magic Regulators." Those who doubt the magic part of this treatment can easily satisfy themselves by the simple test that goes with each box of pills, which is as follows:

> To prove the action of our Magic Regulators on the kidney, the organs which in rheumatism are always diseased and fail to do their work, allowing the poisonous acids to accumulate and lay the foundation for a long and painful run of rheumatism, watch the color of the urine, voided. If it assumes a light blue or bluish green color you may rest assured that the Magic Regulators are doing their work.

*OBESITY CURES.*

The two most prominent are "Obesity Food" and "Rengo Fruit."

"OBESITY FOOD."

The ingredients of this remedy are thyroid gland, poke root and toasted bread. In the literature employed for advertising this "food" the following representations are made:

These tablets are not a drug, but a food, and will agree with the weakest stomach. . . . Rapidly Reduces Fat without bad results. . . . Turns Fat into Muscle.

Whatever virtue this remedy may possess certainly resides in the drugs present. It is therefore unjustifiable to claim that the product is not a drug. The representation that this "food" has the power of turning fat into muscle has no basis for existence whatever. Nothing short of a miracle can turn fat into muscle. There is no process of nutrition by means of which fat can be turned into muscular tissue, since muscular tissue is a proteid compound and not a fat.

### "RENGO FRUIT."

It is claimed that the active constituents of this "fruit" are derived from a luscious, tropical fruit, which grows in clusters similar to grapes. It was shown, however, that the "fruit" really consists of poke root, thyroid gland, cascara, cassia fistula, and confection of tamarinds. The composition of the "fruit" apparently is well known to the promoters of this remedy. Nothwithstanding this fact, however, the prospective patients are told that "Rengo Fruit" is not a drug or chemical preparation. This feature is reiterated in another form:

Man has never found a "regulator" by mixing up concoctions of different drugs; he must consult Nature, and adopt what she furnishes.

From the composition set forth above it can be readily seen that all the statements made are intended solely to mislead. Whatever virtue this "fruit" may possess resides solely in the drugs employed in their manufacture.

## *RHEUMATISM CURES.*

### "MAGIC FOOT DRAFTS."

The following are quotations from the literature:

Magic Foot Drafts are known all over the world as the safest, surest and simplest cure for all kinds of rheumatism. They cure when everything else fails. Best of all, they cure to stay cured. . . . If 100,000 people from every State and Kingdom of the earth have been cured of rheumatism, of every kind and from whatever cause, by Magic Foot Drafts, can any prejudice exist in your mind to prevent your giving the remedy a fair trial?

No one reading these quotations can arrive at any other conclusion but that "Magic Foot Drafts" are capable of curing all forms of rheumatism. "Magic Foot Drafts" consist of pieces of oil cloth, covered on the unfinished side, with a border of adhesive mixture, and the central portion with a plaster composed of the following:

Poke root .....30 per cent. Corn meal ..... 8 per cent.
Pine tar .....62 per cent.

These drafts are to be applied to the hollow of the soles of the feet and are claimed to effect cures in the following manner:

By cutaneous absorption curative elements are taken from the draft. These are carried to the blood by the lymphatics, and neutralize the poisons. . . . It (Magic Foot Draft) stimulates the nerves to activity. The nerves in turn act on the muscles, veins and arteries, increasing the circulation of the blood, compelling it to hasten and deliver up its poisons from the whole system to the sweat glands just beneath the skin, and from thence it is drawn by the Draft through the pores and absorbed. Thus is effected a cure, no matter where the pain is located, because all the blood of the body passed through the capillaries.

There is nothing whatever in these drafts to warrant such claims and representations. They possess no curative element whatever, which when absorbed into the blood will neutralize the poisons which are supposed to be the cause of the rheumatism and in this manner effect a cure.

A particularly interesting feature connected with this scheme is that the promoters when asked for reasons for their claims drew on the writings of the best authors of the country, such as the late J. M. Da Costa, Dr. H. C. Wood, Dr. J. V. Shoemaker, Dr. H. A. Hare, the medical author of the "American Dispensary," and others. These authors when informed relative to the use made of their writings vigorously protested, claiming that any interpretation of their writings which would in any way bolster up the schemes of the "Magic Foot Draft" was absolutely unjustifiable.

### "PLASTERS, ORDWAY'S."

It is only necessary here to call the reader's attention to the fact that the "Ordway Plasters" are claimed to cure rheumatism. Details relative to these plasters have been given under "Consumption Cures in proper alphabetical order.

### "VIBRO DISCS." "VIBRO TABLETS."

The promoter of these remedies styles himself as "Prof. S. M. Watson," alias "Professor Harraden," "The Greatest Hypnotist from Jackson, Michigan." This promoter is absolutely without medical knowledge and it also developed that he has been connected with a number of fraudulent schemes. The claims made for this remedy are fully set forth in the following quotations:

There is nothing cheap about it, nothing inferior about it, as is mostly the case with remedies put forth in a spirit of quackery. My tests of ingredients were simply numberless. My outlays were constant and unsparing. Almost every land and clime was laid under tribute to supply my laboratory with the right material and of the right quality. . . . I can not, of course, make known their ingredients publicly, but I will give you an idea how precious they are when I tell you that one of the number costs over forty dollars an ounce. You will not find drugs of that class in any other remedy advertised for this disease. I have made my remedies perfect, regardless of cost. . . . The absorbent material on my discs is not that of a common plaster. It is prepared for its special work out of no less than twelve ingredients. No other appliance on earth can equal it as a pain-killer and absorbent of uric acid. . . . I alone possess the secret of using a galvanic appliance to root out the poison of rheumatism. . . . Vibro Discs, the only sure and permanent cure for rheumatism in the world to-day. . . . My treatment consists of Vibro Discs and Vibro Tablets, the former being for external use and the tablets for internal. This is what may be called a double action, and science has amply shown that such double action is necessary to complete a cure.

"Vibro Discs" come in pairs of two distinct types. One pair consists of a circular portion of ordinary oil cloth partly covered on one side with a resin plaster and on the other side of one of the pair is a small plate of zinc. The other disc of this same pair contains a copper plate instead of a zinc plate. Beneath the copper and zinc plates the oil cloth is perforated. Externally each entire disc is covered with a piece of gauze.

The second type of discs is similar to that just described except that the plates of zinc and copper and the gauze covering are omitted.

Examination of the plaster covering one side of the discs shows that it is composed largely of some of the cheapest drugs employed in medicine, namely, burgundy pitch, resin, oil tar, sugar, poke root, kaolin, capsicum, and belladonna. The directions given for the use of the "Vibro Discs" are that the pair of discs containing the metallic plates must be warmed, separated from each other while warm, and applied to the soles of the feet before they become cool. The second pair of discs is to

be separated in the same manner and applied to the chief regions of pain. Immediately after the application of the discs it is claimed:

A prompt alleviation of the pains will ensue. . . . The gentle glow that will speedily be felt in the veins is the token that vibration has begun and that the rheumatic venom is being loosed from its strongholds.

The reason given for the induction of this gentle glow and the speedy removal of the rheumatic venom is that an electrical vibration is communicated to the blood, the source of this electrical vibration being the two plates of copper and zinc, respectively, forming a part of the "Vibro Discs." The general principle employed of producing electricity by two different metals, is based on scientific facts but the conditions under which the discs are applied absolutely prevent the formation of any current of electricity. The electric current is also claimed to be imbued with the power of causing the uric acid to be attracted to the discs and to be absorbed there.

Some of the follow-up letters contain interesting arguments, as the following will show:

You know that the acid venom has been encrusting your joints, shriveling up the delicate nerve filaments, and eating away the tissues of your body. It has been in your system for a long time, and each passing day it has dug deeper and intrenched itself more strongly. In view of all these facts, which can not for a moment be disputed, do you think it anything strange that the uprooting of the poison should cause more or less of a wrench—that it would make you suffer even more than you did before you made any effort to free yourself from it? The continued pain you experienced, then, merely indicated that my Vibro treatment was doing its work—that the acid was being rooted out, and that your system was making an effort to throw it off.

The "Vibro Tablets" do not appear to have been considered an essential portion of the rheumatic treatment at first, but it seems to have been found advantageous to introduce such tablets for internal use later. The tablets are claimed to contain the following ingredients:

VIBRO TABLETS.

| | | | |
|---|---|---|---|
| Macrotin | ⅛ gr. | Hydrated lanoline | 45 lbs. |
| Caulophyllin | ⅛ gr. | Cerasin | 2 oz. |
| Ext. jaborandi | ⅛ gr. | Lard | q. s. to 60 lbs. |
| Rhubarb | ⅛ gr. | | |

There is certainly nothing new in this mixture and only one agent is recognized as having any direct influence on rheumatic conditions.

*SKIN BLEACHERS AND BEAUTIFIERS.*

"COMPLEXION POWDER."

One of the agents used for improving the complexion was found on analysis to consist entirely of Rochelle salts. Another product sold under the designation of "Complexion Tablets" was found on analysis to consist of reduced iron, plant extractive and strychnin. An unfortunate incident connected with this case was that the remedy was not marked so as to set forth its poisonous nature, and a mother into whose possession the remedy came carelessly placed it within reach of her two and one-half year old child, with the result that the child consumed a number of the tablets and died from strychnin poisoning. It was contended that the tablets did not contain strychnin but that extract of nux vomica is used in their preparation.

"FACE LOTION."

The most interesting "beautifiers" met with are usually sold under the name of "Face Lotion." The chief active agent found in the samples so far submitted is corrosive sublimate, which is usually dissolved in water containing an indefinite quantity of glycerin, the whole being flavored with a suitable amount of tincture of benzoin. These lotions beautify by destroying the tissue with which they come in contact, causing it to peel off and thus bringing to view the lower layer of the epidermis, which is smooth and pink-like in appearance.

*MISCELLANEOUS.*

"AQUAMIEL."

The Mexican Remedy Company exploited under the above name a mixture which it represented as follows:

The Miracle of Nature. . . . Magical Bust Developer and the most marvelous flesh-producing, blood-enriching, tissue-forming preparation the world ever knew. . . . Permanent Development Guaranteed. . . . Aquamiel is a product of the famous Maguey Plant of Mexico.

A number of interesting pictures accompany the advertising literature showing the remarkable results of this remedy. In one of the best testimonials submitted the patient said she believed that her breasts had increased in size one-quarter of an inch. An investigation of the remedy showed that it consisted of two solutions of different strengths, one of which contained 8 per cent. alcohol and the other 2 per cent. alcohol, both of which were sweetened with saccharine and colored with caramel; a small amount of plant extractive was also present. The medicine is absolutely worthless as a tissue developer, and any chemist can prepare it in any laboratory without the least difficulty.

"ELIXIR OF LIFE."

This preparation was also sold under the name of "T. Duffy's Solution," with headquarters at San Francisco. An analysis of a sample gave the following results:

| | Per cent. | | Per cent. |
|---|---|---|---|
| Water | 99.611 | Non-volatile matter | 0.389 |

The "Elixir" is therefore nothing but an extremely weak mineral water, the non-volatile matter of which consists of potassium chlorid, sodium carbonate, sodium bicarbonate, calcium sulphate and a trace of lithium chlorid. It is heralded as being a most valuable remedy for many affections. Among the many representations made the following is typical:

The Solution cures all Germ and Contagious Diseases, destroying and annihilating them.

"15 MINUTE PILE CURE."

The Dr. Artz Medical Company, St. Paul, Minn., is credited with being the manufacturer and distributor of this remedy. The ingredients employed in its manufacture are zinc oxid, menthol, carbolic acid, simple cerate, chaulmoogra oil, and oil of sweet almonds. The mixture was found to be free from narcotics and opiates as claimed.

It was represented that the value of this ointment resided in the chaulmoogra oil, claimed to be a new principle. A search of literature failed to reveal anything which would justify such a claim for chaulmoogra oil. The advertising literature of the company contained numerous misleading and deceptive statements, of which the following are typical:

It is a positive and permanent remedy, tested in twenty thousand cases in the German Army before being given to the world as a positive and specific cure. . . . Pronounced by the medical profession the most wonderful discovery of modern science.

"LIQUID ELECTRICITY."

Under this name a number of mixtures are sent out from which teas are to be prepared and taken according to directions. The most important active constituents in the mixtures are powdered capsicum, essential oils, iron sulphate, and belladonna leaves.

It is represented that with teas prepared from such mixtures it is possible to cure consumption in a few days. The remedy is also styled an "Electric Cough and Consumption Cure;"

It kills the microbes of bilious, malarial and other fevers, germs of consumption or cancer. . . . Will annihilate the virus of blood disease, . . . remove all offensive odors, destroy all animal and vegetable poisons.

"RADIUMITE."

The following are quotations from the literature:

Nature's Gift to Mankind. . . . The Mystery of Its Powers Puzzles and Bewilders Scientists. . . . Radiumite is a Puzzle to Leading Chemists. . . . Keeps you well while you carry it. . . . Some of those who carry the stuff for warding off disease swear by its virtues, and I know of a number who declare they have been cured of nervousness and stomach troubles through its agency. They have the same faith in the mineral that many have in the rheumatism ring and the buckeye, and other such agencies. . . . It is a well known fact that many eminent French chemists carry radium in their pockets and have great faith in its curative properties.

Directions for using "Radiumite" are as follows:

Carry one or two pieces of the Radiumite in your pocket; or, encase it in a silken or chamois bag and wear it about the waist or suspended from the neck.

These quotations clearly set forth the manner in which "Radiumite" is supposed to cure. The advertising literature leads to the belief that "Radiumite" will cure diseases of the stomach, kidneys, liver, bowel troubles, rheumatism, cancer, etc.

Examination of the mineral submitted showed that it did not possess any radium or radio-activity. It was, however, pyrophosphorescent, that is, when the ore was submitted to friction in the dark it became slightly luminous. Ores of this character are well known and the one under consideration consisted of zinc sulphid and lead sulphid, with a certain amount of gangue. It seems hardly necessary to say that this ore does not possess any curative properties whatever.

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# THE CURE OF PSORIASIS, WITH A STUDY OF 500 CASES OF THE DISEASE, OBSERVED IN PRIVATE PRACTICE.*

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Psoriasis is well known to be one of the most obstinate of all diseases of the skin, discouraging alike the physician and patient, and one which often persists for many years, or recurs, in spite of various attempts at cure. While, under proper and energetic local treatment, it is often possible to remove the existing lesions in a shorter or longer time, the tendency to a recurrence of the eruption is so strong that some have regarded the disease as incurable, and too often have only attempted to give relief to the cutaneous symptoms present, principally by local means.

It is to be noticed that writers who base their judgment on cases seen in public practice, and who dwell principally on the local treatment of psoriasis, speak most discouragingly in regard to the possibility of its permanent cure, while certain others, who study the disease in its broadest aspects, express the most hopes of ultimate recovery.

In order to understand the disease better I have looked over my records of cases of psoriasis seen in private practice during the last 35 years, and have had them analyzed in several particulars, which will be presented later. The total number amounts to 509 separate cases seen among 14,120 patients with miscellaneous diseases of the skin. This makes the percentage of psoriasis to be 3.6, which is somewhat smaller than that I reported some years ago.[1] The difference is probably due to the exclusion of cases of dermatitis seborrhœica (which may often resemble psoriasis) both of late years, and from older records of cases in which the history seemed to point to this affection; so that the cases here analyzed are all undoubtedly of the disease under consideration.

This proportion is a trifle larger than that observed in public practice. Thus, of 48,132 cases of miscellaneous skin diseases treated at the New York Skin and Cancer Hospital during the last twenty-two years there were 1,597 of psoriasis, making a percentage of 3.3; this varied in different years from 2.2 to 4 per cent. In private practice the males outnumbered the females, there being 295 males, or almost 58 per cent., to 214 females, or 42 per cent. In public practice the females were slightly in excess, 806 males and 791 females.

TABLE 1.

AGE AT TIME OF CONSULTATION.

| Age. | Private Practice. | | | Public Practice. | | | Grand Total. |
|---|---|---|---|---|---|---|---|
| | Male. | Female. | Total. | Male. | Female. | Total. | |
| Under 5 years | .. | 2 | 2 | 5 | 6 | 11 | 13 |
| From 5 to 10 | 3 | 11 | 14 | 24 | 62 | 87 | 101 |
| From 10 to 15 | 6 | 9 | 15 | 46 | 79 | 125 | 140 |
| From 15 to 20 | 25 | 42 | 67 | 65 | 114 | 179 | 246 |
| From 20 to 25 | 34 | 44 | 78 | 114 | 135 | 249 | 327 |
| From 25 to 30 | 48 | 41 | 89 | 146 | 129 | 275 | 364 |
| From 30 to 35 | 53 | 23 | 76 | 136 | 88 | 224 | 300 |
| From 35 to 40 | 46 | 12 | 58 | 87 | 40 | 127 | 185 |
| From 40 to 45 | 27 | 5 | 32 | 66 | 42 | 108 | 140 |
| From 45 to 50 | 23 | 6 | 29 | 41 | 40 | 81 | 101 |
| From 50 to 55 | 13 | 6 | 19 | 29 | 20 | 49 | 68 |
| From 55 to 60 | 6 | 5 | 11 | 22 | 11 | 33 | 44 |
| From 60 to 65 | 4 | 6 | 10 | 16 | 11 | 27 | 37 |
| From 65 to 70 | 3 | 2 | 3 | 5 | 8 | 7 | 12 |
| From 70 to 75 | 2 | .. | 2 | 5 | 2 | 7 | 9 |
| From 75 to 80 (78) | 1 | .. | 1 | 2 | .. | 2 | 3 |
| Unknown age | 1 | .. | 1 | .. | 6 | 6 | 7 |
| | 295 | 214 | 509 | 806 | 791 | 1,597 | 2,106 |

In looking at Table 1 we see that psoriasis comes for treatment at all ages; there were two patients under 5 years of age, the youngest being a female child of 2 years; the oldest patient was a male aged 78 when applying for treatment. But by far the largest number were first seen between the ages of 15 and 35, 310 in all, over 60 per cent., and the most in any quinquennium were in the period between 25 and 30, 89 patients.

Of more interest, however, is Table 2, which shows the age at which the eruption was first developed. Here it is seen that the skin lesions may begin at a very early age, the youngest recorded at 4 months, and in all 30, in whom it appeared before the age of 5 years, almost

* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association at the Fifty-seventh Annual Session, June, 1906.

1. "Clinical Study and Analysis of 1,000 Cases of Psoriasis," Trans. First Internat. Dermatol. Cong., Paris, 1890, p. 879.

6 per cent. of the whole; there were 52 cases, or 10 per cent., in which the eruption was first noticed between the ages of 5 and 10 years, a total of 82 cases, or 16 per cent., before the age of 10 years; this, however, differs from the statement of Neumann[2] that the eruption generally appears about the sixth year of life. It will be noticed that the eruption was recorded as appearing most frequently between the ages of 15 and 25, 190 cases, or 95 in each quinquennium; curiously enough, also, the numbers of males and females were exactly alike in each period of five years. It will be also noticed how very seldom it first developed after the age of 55, only 5 cases.

TABLE 2.

AGE AT FIRST APPEARANCE OF PSORIASIS.

| | Male. | Female. | Total. |
|---|---|---|---|
| 4 months | 1 | .. | .. |
| Under 1 year | 3 | .. | 3 |
| From 1 to 2 years | 2 | 3 | 5 |
| From 2 to 3 years | 2 | 6 | 8 |
| From 3 to 4 years | 1 | 3 | 4 |
| From 4 to 5 years | 3 | 7 | 10 |
| From 5 to 10 years | 21 | 31 | 52 |
| From 10 to 15 years | 25 | 50 | 75 |
| From 15 to 20 years | 57 | 38 | 95 |
| From 20 to 25 years | 57 | 38 | 95 |
| From 25 to 30 years | 30 | 15 | 45 |
| From 30 to 35 years | 28 | 7 | 35 |
| From 35 to 40 years | 22 | 6 | 28 |
| From 40 to 45 years | 10 | 4 | 14 |
| From 45 to 50 years | 7 | 8 | 15 |
| From 50 to 55 years | 5 | 3 | 8 |
| At 56 years | .. | 1 | 1 |
| At 59 years | .. | 1 | 1 |
| At 61 years | .. | 1 | 1 |
| At 63 years | .. | 1 | 1 |
| At 64 years | .. | 1 | 1 |
| Unknown | 10 | 2 | 12 |
| | 283 | 226 | 509 |

That psoriasis is a chronic and rebellious disease is seen in Table 3, which exhibits the duration of the eruption before coming for treatment. While there were a few cases in which the patient was seen some weeks or months after it had first appeared, it will be observed that in a very large number of instances, 118, the eruption had already existed between one and five years, and in a still larger number, 123, it had first developed between five and ten years before the record was made. The diminishing numbers after this period do not by any means indicate that the eruption may not last even

TABLE 3.

DURATION BEFORE TREATMENT.

| | Male. | Female. | Total. |
|---|---|---|---|
| Under 1 year | 42 | 38 | 80 |
| From 1 to 5 years | 68 | 50 | 118 |
| From 5 to 10 years | 60 | 63 | 123 |
| From 10 to 15 years | 45 | 30 | 75 |
| From 15 to 20 years | 30 | 20 | 50 |
| From 20 to 25 years | 22 | 8 | 30 |
| From 25 to 30 years | 9 | .. | 9 |
| From 30 to 35 years | 5 | .. | 5 |
| From 35 to 40 years | 3 | 1 | 4 |
| From 40 to 50 years | 2 | 1 | 3 |
| Unknown | 10 | 2 | 12 |
| | 296 | 213 | 509 |

longer than the highest period mentioned, fifty years; for we know that it frequently does continue till death. It only shows that after the eruption has lasted many years, perhaps with intermission, the patient no longer attempts to get relief, hence the small number seen after a duration of twenty to twenty-five years.

### PROLONGED TREATMENT NECESSARY.

Patients with psoriasis are proverbially restless under treatment, and continually wander from one physician to another, visit mineral springs, and try about all the quack remedies. It is very hard to hold them to a strict régime of diet and hygiene, and internal medication for a length of time, and they even tire of the local treatment when it is not rapidly beneficial. With a return of the eruption they naturally seek other help.

In Table 4 is exhibited the duration of observation and often irregular treatment of the cases analyzed. It is here seen that 108 cases were seen only once, many of them in consultation, and 68 for one month or less, a total of over one-third of the whole number; while of the cases which were treated at all there were 231, or nearly one-half that were under treatment for only one year or less. This, as will be seen later, is far less time than is necessary to overcome the tendency to the disease. Of the 170 cases, or 33 per cent. that were under observation for a period of over one year, my records show that very few of them pursued treatment faithfully and continuously for a lengthened period of time, but were seen now and again, as fresh eruptions or other reasons led them to seek medical advice. It will be noted that some patients were under observation for very many years, and in certain instances in which it was possible to carry out efficient treatment, general and local, the permanent results have been very satisfactory. But with the uncertainties of an office and consultation practice it is evidently impossible to make any definite statements in regard to permanent cures; in a limited number of cases, however, that have been heard from or seen from

TABLE 4.

DURATION OF OBSERVATION OF CASES.

| | Male. | Female. | Total. |
|---|---|---|---|
| Seen once | 75 | 33 | 108 |
| 1 month or less | 43 | 25 | 68 |
| 1 to 2 months | 16 | 17 | 33 |
| 2 to 4 months | 12 | 20 | 32 |
| 4 to 6 months | 16 | 14 | 30 |
| 6 months to 1 year | 36 | 32 | 68 |
| 1 to 2 years | 21 | 20 | 41 |
| 2 to 3 years | 16 | 14 | 30 |
| 3 to 4 years | 6 | 5 | 11 |
| 4 to 5 years | 9 | 1 | 10 |
| 5 to 10 years | 18 | 20 | 38 |
| 10 to 15 years | 9 | 14 | 23 |
| 15 to 20 years | 4 | 5 | 9 |
| 20 to 25 years | 3 | 2 | 5 |
| 25 to 30 years | 2 | 1 | 3 |
| | 286 | 223 | 509 |

time to time, it is believed that the tendency to the disease has been eradicated by complete, prolonged treatment, the patients remaining free from eruption.

It is not surprising that psoriasis should be rebellious, and the eruption apt to recur, when we compare it with certain other diseases whose chronic character is accepted, but which are known to be amenable to prolonged treatment, perfectly directed in every respect. It is within the memory of many of us when syphilis was regarded as incurable, and when physician and patient were content to meet and remove symptoms as they recurred, and we were constantly seeing patients with this disease presenting repeated lesions, even for many years. But now the laity, as well as the profession, have pretty well accepted the fact that proper and sufficiently prolonged treatment will eradicate syphilis, and we no longer have presented to us the sad and distressing late ravages of the disease, in the frequency with which we met them some years ago. But this change has been accomplished only by recognizing and accepting the fact that the patient must submit to a continuous course of treatment, with intermissions, perhaps, but only as directed by the physician, for at least two years, and often for three or more years; and also that faithful treatment is necessary as early in the course of the disease as possible. Or, take the case of gout and rheumatism. There are certainly fewer individuals with the severe chronic forms of these diseases than formerly,

2. "Lehrb. der Hautkr.," Wien, 1873, p. 259.

because patients have learned from physicians that they must take prolonged treatment, and guard their mode of life during a considerable period, or even indefinitely, if they wish to escape from these troublesome and rebellious affections. The same may be said of chronic bronchitis and asthma, and sufferers from these maladies go to infinite pains in many directions, including great climatic experiments, in order to get relief. All are familiar with the satisfactory results which can often be obtained in diseases of the hip and spine by prolonged proper treatment, constitutional and local.

In regard to some affections of the skin it is likewise recognized that greatly prolonged treatment, and careful dietary and hygienic measures may be necessary in order to overcome the tendency to the eruption. Thus, eczema will often persist continually, or with exacerbations, for years, until by proper, faithful, and persistent medical supervision, perhaps for years, the susceptibility to its recurrence is conquered. The same may continually be observed in regard to acne, which has persisted into adult life, and also with regard to urticaria. All of these illustrations apply to the proper treatment of psoriasis. For, while we are not yet prepared to state the exact nature of the disease, or the immediate underlying causes of the eruption, any more than we can of eczema or some other general disease, we know enough of the clinical history and many other matters, to enable us to assert the soundness of such a deduction.

TABLE 5.

HEREDITY, 509 CASES.

| Psoriasis: | Father. | Mother. | Patients. | Per cent. |
|---|---|---|---|---|
| Patients with anterior heredity. | 28 | 49 | 47 | .09 |
| | Sons. | Daughters. | Patients. | |
| Patients with posterior heredity. | 8 | 10 | 18 | .03 |
| Described as family disease | .. | .. | 9 | .01 |
| Neither anterior nor posterior heredity | .. | .. | 308 | .60 |
| Heredity unknown or unrecorded | .. | .. | 127 | .25 |
| Patients | | | 509 | |

| | Father. | Mother. | Patients. |
|---|---|---|---|
| Having parents with psoriasis | 25 | 16 | 41 |
| | Grandparents on: father's side. | mother's side. | |
| Having grandparents with psor. | 3 | 3 | 6 |
| | Sons. | Daughters. | |
| Having children with psor. | 8 | 10 | 18 |
| | Brothers. | Sisters. | |
| Having brothers or sisters | 30 | 28 | 58 |
| | Father and father's father. | Mother and mother's father. | |
| Gout and rheumatism: With anterior heredity | 17 | 12 | 29 |
| Eczema and dermat. seb.: | Father. | Mother. | |
| With anterior heredity | 14 | 14 | 28 |
| | Brothers. | Sisters. | |
| Having brothers and sisters | 6 | 8 | 14 |
| Asthma: | Father. | Mother. | |
| Having parents with asthma. | 2 | .. | 2 |

Psoriasis is not a local disease of the skin as is epithelioma. Psoriasis is not a parasitic disease of the skin in the ordinary acceptance of the term, as has been abundantly shown by the conflicting studies of many observers. Psoriasis is not a self-limited disease of the skin; when once developed it has no natural tendency to disappear, while the patient remains in the same condition of life. Psoriasis is not permanently curable by local treatment alone; and if we ever hope to overcome the disease, it must be by measures of some kind other than local.

## IS PSORIASIS HEREDITABLE?

Psoriasis is often spoken of as an hereditary affection, but a study of the recorded histories here analyzed, of the more intelligent class of patients in private practice, seems to show that this is not an important feature in any proportion of the cases, as is shown by Table 5.

Thus, in 305 cases, or 60.75 per cent., concerning which inquiry was made, there was no anterior or posterior heredity; and in 127 instances no statements were recorded. If we allow that 60 per cent. of these latter, or 76 patients, had also no hereditary history, it makes a total of 384, or over 75 per cent., in which the disease showed no hereditary influence. Of the patients in regard to whom any anterior hereditary influence was observed, there were only 41, or .09 per cent. who had 25 fathers and 16 mothers affected, and six who had three grandfathers and three grandmothers affected; of those with posterior heredity, there were only 18, 8 of whom had sons and 10 had daughters affected. There were also 58, 30 of whom had brothers, and 28 who had sisters affected. In regard to 9 patients it was recorded that psoriasis was a "family disease." It is not possible at present to state how many children of psoriatic patients escaped the disease, as these were not tabulated; but from casual inspection of my notes, and from memory, it can be confidently stated that there were many hundreds, many of them coming to advanced years, who never showed any signs of the disease.

It is recognized, of course, that these figures are not as absolutely reliable data in regard to the hereditability of psoriasis as could be desired, for naturally the knowledge or memory of the patient or friends can often be at fault, and frequently very searching and accurate questioning is not made. But as they relate to patients in the higher walks of life, in private practice, and as full and careful notes have been preserved in regard to every case, it may be pretty well accepted that the disease shows hereditary influence in not over one-quarter of the cases. This proportion might readily be expected when we consider that parents and children are commonly under the same influences of climate, hygiene, diet, and whatever may tend to produce the disease. It is, however, so constantly observed that many children in a family will escape, and only one be affected, that it is evident that true inheritance does not play a great part in the genesis of the eruption. It is reasonable to suppose that when the disease does exist, a tendency to it may be hereditarily transmitted, as other tendencies and peculiarities are handed down through generations. I am inclined to believe that, as in eczema, gout, asthma, tuberculosis, etc., it is a weakness of tissue that is inherited, which renders it susceptible to the true exciting causes of the eruption, rather than any specific disease element which is hereditarily transmitted.

## ETIOLOGY.

When we come to consider what is the real cause of the eruption we are confronted with a difficult task, for as yet no accurate studies have afforded an adequate answer. The eruption has been carefully studied microscopically by many competent observers, but thus far these studies throw no clear light on the true nature of the disease. Great activity is found in the epithelial elements of the skin, with rapid keratinization; but there is also dilation of the blood vessels in the papillary layer, even in a very early stage, while later, there is perivascular cell extravasation, even deep in the corium; and observers are not agreed as to which occurs first, in point of precedence. Many claims have been made of a parasitic element, but no specific organism has yet been demonstrated, only such as are commonly found on the skin, more or less modified by their surroundings.

It is reasonable to suppose that there are many causative elements concerned in the production of the eruption in psoriasis, as in other skin affections, and I am prepared to accept a micrococcic agent as one of the direct exciting causes of the separate lesions: for, it

must be acknowledged that their clinical appearance and mode of development and extension all strongly resemble the results produced in the skin by the trichophyton. It is also not a little striking and impressive that most of the local remedies of value in psoriasis are such as have decided parasiticidal action. Chrysarobin was first used, in the form of Goa powder, for ringworm.

But, as stated, no specific parasite has yet been demonstrated, and we have to fall back on the pathogenic effect of some of the many ordinary cutaneous micro-organisms, which are almost omnipresent: even as we see the lesions of scabies and eczema becoming pustular, in certain subjects whose tissues afford a proper nidus for the coccus, which does not seem to affect other skins. For we know that micro-organisms which are ordinarily harmless may take on pathogenic action under suitable circumstances. When, therefore, the skin by inheritance is peculiarly liable to such invasion, and ready to take on diseased action, the micro-organisms which are continually lodged in the skin (as is evident from many experiences relating to surgery), excite the changes of psoriasis in the epithelial cells, if all other conditions are favorable.

Exactly what all these other conditions are it is impossible to state, for neither clinical nor laboratory work has as yet demonstrated just where the fault lies. But there are many features connected with the disease which seem to point to a constitutional state or condition which, at one time or another, favors the development of the lesions, and which can not be ignored. Thus, the intermittent character of the eruption, often without treatment, shows some change in the individual which even on the theory of a microbic origin of the lesions, causes the omnipresent micro-organisms to have effect. The same may be said in regard to the well-known proclivity of the eruption to appear at certain seasons, at which we know that the diet varies greatly, as well as the mode of life, all of which may modify greatly the metabolic processes on which the state of the tissue depends.

Most writers speak of psoriasis as occurring in persons in the best of health; but from a study of many cases in private practice, often over long periods of time, I am convinced that this is not the case, and that there is always some departure from the normal which can and should be discovered and reached if the disease is really to be cured. In many instances the eruption depends wholly on pure debility, and a prolonged and most careful tonic course, with iron, etc., will ultimately overcome the difficulty. In the gouty and rheumatic class of cases undoubted benefit results from a protracted and faithful alkaline course of treatment, with such dietary, hygienic and medicinal measures as meet the underlying blood state. In a certain proportion of cases a strumous habit will be at the bottom of the trouble, and cod-liver oil, phosphates, etc., will be needed, occasionally with alterative doses of mercury.

It would be possible to demonstrate all these points by illustrative cases, but time forbids. But I may state that it is only by the most careful study of everything pertaining to the life and health of the individual, and by complete and repeated note taking, over periods of time, that the real condition of psoriatic patients can be understood and properly treated, as, indeed, is true of many other chronic complaints: and I am sure that if this were habitually done, these matters would be as evident to others as they have been to me for many years.

Some writers claim that the disease is only a very late manifestation of syphilis, either acquired or inherited, and it is, indeed, surprising how a well defined psoriasis will sometimes melt away under efficient mixed treatment, or under iodid of potassium alone. But I can not share in this view of psoriasis, and recognize in such therapeutic results only a modification of the faulty metabolism induced by these remedies, even as eczema in children will often yield so remarkably to the proper use of calomel and soda.

From constant study of these cases I am convinced that faulty metabolism is at the bottom of psoriasis, and I believe that sufficient care can commonly demonstrate this in a considerable proportion of patients. The urine is a most important and valuable indication of the manner in which metabolism is carried on, and should be frequently and completely investigated in psoriatic patients. I do not refer to the discovery of sugar or albumin, but to a perfect knowledge of its relative and absolute quantity, its volumetric acidity and specific gravity at various times, and the exact amount and character of its many possible ingredients, etc. Deficient and defective urinary secretion will explain very many otherwise obscure and rebellious conditions of the system: it is understood, of course, that it is not believed that the kidneys themselves are necessarily at fault, but that the condition of the urine affords an indication as to how the metabolic processes have been previously carried on in various parts of the system.

This is a very large subject and can not be entered on further at this time, and I must refer to what I have already written on the subject.[3] But I will briefly refer to two very striking cases which have recently been under my care: A woman, weighing 163 pounds, with inveterate psoriasis, had passed only 13 ounces of urine the day before her visit, and at times has passed as little as 11 and even 7 ounces in the 24 hours, and yet was thought to be and appeared in perfect health. Another, a young woman, aged 21, weighing 138½ pounds, who had had psoriasis eight years, passes at times enormous amounts of urine, with great frequency and urgency day and night, and again a scanty urine of a specific gravity of 1,041 (no sugar), and an acidity, as measured, of almost four times the normal degree, and with 4.3 per cent. of urea, over double the normal amount. Surely the perturbations of metabolism manifested in these two patients can not be without effect on the condition of the skin. Moreover, the effect of intelligent treatment, dietary, hygienic and medicinal, on these and other patients, has demonstrated to a nicety that there is an intimate relation between metabolic conditions and the eruption on the skin.

Very recently, at the New York Skin and Cancer Hospital, one of the most rebellious and distressing cases of psoriasis that I have ever seen, has changed in a remarkable manner by internal treatment along metabolic lines. The patient, a woman, aged 32, has had characteristic psoriasis for very many years, and has been in the hospital for months at a time, the disease resisting every conceivable form of treatment. A month ago, when the eruption had affected almost the entire surface, many large areas suggesting dermatitis exfoliativa, she was given four drops of strong nitric acid, internally, well diluted, three times daily, after eating. The good effects were apparent very soon, and the eruption has steadily faded, leaving most of the surface in a normal condition, and

3. "Relation of Diseases of the Skin to Internal Disorders," Rebman & Co., New York, 1906.

this with relatively little of the same, rather mild, local treatment which she was previously using without effect. What the ultimate results will be can not yet be judged, but, in all my experience I have never witnessed such a startling result from a single internal therapeutic measure in psoriasis.*

TREATMENT.

The treatment of psoriasis, as may be judged from what has preceded, may cover a very wide range of measures, and it is readily understood why arsenic is not always successful in controlling the disease. And yet arsenic is considered by many as about the only remedy in this disease, and assuredly, in certain cases it will often control the eruption in a very satisfactory manner. Its mode of operation is by no means fully understood, although it is commonly credited with having a more or less definite action on the epithelial elements of the skin. This may be so, but to my mind it is more logical to explain its effect through the agency of the general nutrition: for arsenic is equally recognized as a nerve tonic, controlling chorea and neuralgia to a marked degree, and is also of value in chronic malaria and in many conditions of debility.

The internal remedies which may, at one time or another, be used with advantage in the treatment of psoriasis, embrace a fair proportion of these in the Pharmacopeia, and it is impossible even to mention the many which from time to time have been brought forward. The truth is that each and every one of them has probably been of service in one or more cases, which happened to be suitable for it at the time.

It is here that the correct treatment, looking toward a cure of psoriasis comes in: namely, in studying the patient at each visit, and determining the proper line along which to operate at that particular time, for undoubtedly constitutional conditions change from many causes, and treatment should be varied accordingly.

Moreover, it is well to remember what was said a while ago in regard to the obstinacy of the disease, and the length of time often required to overcome syphilis and many other chronic conditions. In my judgment there are many failures in psoriasis which are due to irregularity and intermissions in the constitutional treatment, or cessation of the same. Although the eruption of psoriasis may often be removed relatively easily by local measures, the patient is by no means cured, and it is often a disadvantage to have the eruption too quickly removed by local means, as it renders the patient careless and unwilling to pursue the dietary, hygienic, and medicinal treatment long enough to effect a cure.

As may be inferred from what has preceded, I have no single remedy or treatment to present or advocate, nor do I believe that such will ever be found: for there is no specific element to overcome, as in syphilis and malaria, nor any parasite that can be eliminated, once for all, as in scabies and favus. But I do plead for a more careful and prolonged study and control of the psoriatic patient, in all particulars, and such a regulation of the life, and such a use of all the measures known to the science and art of medicine, as shall suffice to change the constitution to that degree that, although the eruption may possibly threaten at times, it need never prove a serious matter: and, as before stated, I believe that this can be done in a very much larger proportion of cases than has hitherto been generally believed and accomplished, and that even the tendency to the eruption can often be entirely overcome.

As in the case of gout and chronic bronchitis, the psoriatic subject must recognize the existence of a disease of deep-seated nature, which will require the best efforts of the physician and patient, over a long period of time, in order to have it effectually overcome. I commonly fix two years (it may be longer) as the least period to be considered at first; and then, if after that the patient relapses into exactly the same mode of life and condition of system as previously, there may be a threatening of the eruption. But if, with its slightest recurrence, energetic measures are at once taken and continued, the trouble may be avoided, as I have observed time and again.

Time forbids going at length into the details of constitutional treatment, so different are the cases, but a few words of suggestion may be given. Mention has already been made of the excellent results sometimes obtained by antisyphilitic treatment, even when no specific history can be obtained, also of the disappearance of the eruption under the free use of nitric acid internally. In full blooded plethoric cases, tartar emetic in increasing doses, to toleration, given six times daily, with nux vomica and quassia, has cleared up a number of my cases in a surprising manner, without local treatment; but this needs to be followed by a tonic course of iron and arsenic, and perhaps returned to again. In cases in which debility was evident, a strong course of iron and arsenic, with bitter tonics, has had like effect, and the same has been accomplished with cod-liver oil, in suitable cases. There are also many patients in whom arsenic alone, in efficient doses, suffices to keep the disease in abeyance.

Arsenic is so well known that little need be said concerning it. I have never had occasion to regret its use in suitable cases, and have had patients who consumed large quantities with only beneficial results. The greatest consumer of arsenic was a clergyman, under my care more or less for twenty years, beginning at 30 years of age, when he had already had the eruption eight years. He calculated that sometimes he took almost 8 ounces of pure Fowler's solution in the course of a single year, and over half a gallon, in drops, in the course of fourteen years. But arsenic does not suit every case nor every stage of the disease. As is well known, it sometimes stimulates the eruption to increased activity, and is seldom of value in its acute or developing stage, but rather aggravates it.

Alkalies, properly used, and such remedies as promote a perfect urinary secretion, are of the utmost value in most cases of psoriasis: and it is here that the value lies in most of the mineral waters used at the springs or at home. But to be really effective they should be administered with a repeated and perfect knowledge of the kidney secretion, as shown by quantitative analysis. The urine should not be kept alkaline, but somewhat below the normal acidity. Acetate of potassium, combined with nux vomica, and the fluid extracts of dulcamara and rumex, is most valuable, especially in the most congestive forms of the eruption.

Diet, undoubtedly, has much to do with psoriasis, and should always be most carefully attended to. Alcohol in any form, even the lightest wine or beer, is prejudicial and must be absolutely avoided. Whatever may be the mode of operation, there is no question in my mind, from

* At the date of correcting proof, four months later, I may add that the dose has been gradually increased until she is now taking about ten drops of the strong nitric acid, three times daily, with the entire absence of the eruption, when seen to-day, and with no local treatment for a long time.

repeated observations, extending over many years, that meat, especially if freely indulged in, increases the liability to and severity of the eruption, as I reported ten years ago;[4] and I am more convinced in regard to this than at that time. For many years I have placed numerous psoriatic patients on a strictly vegetarian diet, with most excellent results; and these results are further corroborated by the fact that now and again, when one has broken through the regulations, he or she has reported with a recurrence of the eruption. I make the diet absolutely vegetarian, not even allowing eggs or fish, or milk as a beverage, with eating; and sometimes I have even excluded coffee and tea with advantage. Excess of sweets also tends to increase the eruption in psoriasis, and these should be greatly restricted: moreover, as the eruption is often increased by dyspepsia I see to it that pastry or articles exciting indigestion are also avoided.

Hygiene has a certain bearing on psoriasis, and in an effort to secure a cure of the disease it should always be controlled. This can not be gone into fully here, but if, as I believe, faulty metabolism is the bottom cause of the malady, every item which can conduce to its perfect performance should be attended to: and unless the physician investigates and directs this, the patient will be apt to live just as before. I have elsewhere reported psoriasis profoundly affected by the condition of the nervous system, the eruption appearing with each nervous breakdown, and we all know of the recurrence of psoriasis in connection with lactation. Temperature has much to do with the eruption, as it frequently disappears on removal to a warm climate, and the disease is relatively seldom seen in the tropics.

In regard to local treatment I have little to say, except that I agree with the most radical localists, in regard to the importance (although not relative importance) and effect of local therapeutic measures; no one who has seen much of the disease could rightly do otherwise. The rapid removal of a long standing and rebellious eruption of psoriasis by the proper use of chrysarobin, of good quality, is certainly a striking evidence of therapeutic power; but we all know the objections to chrysarobin, and often it is not feasible to employ it in private cases in an efficient manner. Sometimes, however, the eruption does not yield to it, and occasionally it fails owing to an inferior quality of the drug. I need not take time to enter into the details of other local treatment, which are well given in literature, almost every variety of which I have, at one time or another, used in private or public practice. As in all other cutaneous maladies the application has to be fitted to the case, and varies according to the character and stage of the eruption, and time forbids further consideration of the subject. But I would like to say a few words in regard to the treatment of the eruption by the *x*-rays, in which I have had some interesting experiences. They are by no means suitable to every case, although as yet I have had no unfavorable experiences, except one, among a considerable number of cases thus treated, in part. In this patient, a man aged 55, there was a slight burn on the abdomen, with the same strength of application used elsewhere: but this healed soon, and the results elsewhere had been so favorable that he insisted on having the *x*-ray still employed on other patches, even while this was sore. I have used it only on older, more chronic lesions, and have repeatedly seen a single application of medium intensity remove a patch entirely. It often leaves a brownish stain, which persists some little time. I have had cases in which, although new eruptions developed elsewhere, the portions which had been treated by the *x*-rays remained free. As an adjunct to the local treatment of psoriasis, in proper cases, I consider this new measure a most valuable addition to our armamentarium.

4. Trans. Third Internat. Dermatol. Cong., London, 1896, p. 731.

### CONCLUSIONS.

In conclusion I would emphasize the following points in regard to the disease under consideration:

1. Psoriasis is not a purely local disease of the skin, but has constitutional relations which are most important.

2. Psoriasis is not a parasitic disease of the skin, in the usual acceptation of the term; it is not contagious, nor has it a definite micro-organism. But probably the immediate lesions on the skin are caused by the growth of some of the ordinary micro-organisms usually found on the skin, which take on a pathogenetic action when the soil is suitable.

3. Psoriasis can not be cured permanently by local treatment alone, although when properly directed this is commonly capable of removing existing lesions, which are likely to return.

4. In some instances in which local treatment seems to be followed by success, the eruption may be seborrheic dermatitis, which in some of its phases closely resembles psoriasis.

5. Hereditary influence is a relatively unimportant factor, not operative in more than one-quarter of all cases: even in many of these instances but one child may be affected among many healthy children.

6. Psoriasis is not a late manifestation of syphilis.

7. There is no one tangible internal cause of psoriasis, though faulty metabolic changes are probably at the bottom of every case, and these may be induced in many ways.

8. The repeated and thorough volumetric analysis of the urine is a most valuable aid in determining the line of proper treatment in different cases, and at different times.

9. There is no one internal remedy universally of value in psoriasis, although arsenic is the single agent of most service in the greater number of instances. Arsenic is safe, if properly used, and may be taken for a long time with only beneficial results: but it commonly requires to be employed in conjunction with other internal measures, or alternated with them. In acutely developing psoriasis it often acts badly, increasing the eruption.

10. In a large share of cases alkalies, if properly used, are of the greatest value in psoriasis.

11. The avoidance of meat, or an absolutely vegetarian diet, is a most valuable aid in treatment, and sometimes will be attended with freedom from the eruption.

12. Psoriasis is an exceedingly chronic and rebellious disease and effective internal measures must be continued for a long time, generally for at least two years, to ensure a cure.

13. Local treatment is of the greatest value in the removal of the eruption present, but its temporary success should not interfere with the persistence in proper internal measures for a length of time, even when no eruption exists. The eruption can also disappear under the strictest proper internal treatment, without the aid of any local measures.

14. The *x*-ray is a most valuable adjunct to local therapeusis, and is sometimes capable of removing chronic lesions even by means of a single application.

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## DISCUSSION.

DR. FREDERICK A. RHODES, Pittsburg, Pa., said that a few years ago he sent a letter to a number of dermatologists in this country asking what, in their experience, is the ratio of psoriasis to other skin diseases; also, to what diseases, in their opinion, it is especially allied, and their views, in a few words, as to prognosis, etiology and treatment. To most of these letters he received courteous replies, but after summing up the conclusions he was no better off than before. He is particularly interested in psoriasis because for 6 years he has been a sufferer from the disease. In 1899 he first noticed a small, papular lesion on the inner surface of the left ankle, above the malleolus, which he did not consider seriously. It remained as a single lesion for a number of months. About that time, on account of an epidemic of smallpox in the neighborhood, he re-vaccinated himself a number of times, but with no result. In the course of a few weeks, however, a number of new psoriatic lesions developed, and within three months there were numerous patches from the knees to the feet, and a few isolated lesions on the thighs and arms. Dr. Rhodes said that some of the leading dermatologists hold the view that vaccination will arouse a latent psoriasis, and a few years ago, in the *British Journal of Dermatology*, a series of cases was reported in which the claim was made that vaccination is the cause of the disease. Dr. Rhodes said that he does not agree with the view that it can be the real cause, but believes it can arouse a latent one.

During the first year after his psoriasis developed it was worse than it has been at any time since, and the scaling was very free. He tried various methods of treatment without avail, and stated that if one were to try all the remedies that have been recommended in this disease, it would practically include the entire pharmacopeia. He tried the different local remedies and arsenic internally, with no other effect than to alleviate the symptoms to some slight extent. Finally he came to the conclusion that the eruption is the result of metabolic disturbance, and in spite of the fact that during the past three or four years he has done practically nothing in the way of treatment, a gradual improvement has been noticed. The eruption is worse during the winter months; in February and March the lesions usually increase in size and number, and with the onset of the warm weather an improvement is noticed. While the *x*-rays have given good results in some cases, he is of the opinion that exposure to sunlight has been equally efficacious in his cases. The fact that there are so few cases in tropical countries, with benefit of warm sunlight when tried, tends to show that the eruption is caused by some disturbance of the vasomotor system, probably of the vasodilators, the action being reflex and irritant due to metabolic products circulating in the blood. Dr. Rhodes said that a peculiar feature in connection with his own case is that at the time the disease manifested itself he had an attack of gastralgia which persisted as long as the eruption was severe, and there have been recurrent attacks of the gastralgia coincident with the outbreaks of psoriasis. In conclusion he stated that the attacks, both in time of appearance and physiologic action, resemble very much those of chorea, another disease of doubtful etiology. In chorea the irritating effect is manifested through the motor nerves, while in psoriasis the manifestation is seen in those nerves when modified by sympathetic ganglia.

DR. CHARLES P. SYLVESTER, Dorchester, Mass., reported a case of psoriasis which resisted all external and internal medication, but was rapidly cured by laparotomy and curettage. The patient was a married woman, aged 27, a blonde, who had always been strong and healthy, except for a constant leucorrhea following the birth of a child 6 months before. Her bowels were regular; menstruation was normal, but rather free. She was fond of candy. In March, 1903, she had a severe attack of tonsillitis which so closely resembled diphtheria that 5,000 units of antitoxin were given while awaiting culture reports, all of which were negative. Five weeks later, punctiform macules appeared on the face and body, which were scaly and itching in character, with lameness of the muscles and painful joints. The patches slowly increased in size and number until almost the entire body, including the scalp and face, but excepting the palms and soles, was covered with the lustrous, scaly patches, some of which, around the umbilicus and sacrum, coalesced to form areas as large as the palm, while most of them did not enlarge to the size of a dime. Various internal and external remedies were used without much effect, including mercury and potassium iodid, as the sore throat, followed by the eruption, suggested syphilis. The subsequent history, however, eliminated that disease. Vaginal examination revealed a large, retroverted uterus, with a polypus projecting from the external os, and a small fibroid on the posterior wall of the fundus. The cervix was slightly torn on the left side. There was an offensive, viscid discharge. An operation was advised for the removal of the tumors, for restoring the normal position of the uterus and relieving the leucorrhea, and as the best chance of curing the psoriasis. The patient refused surgical treatment. The disease assumed more and more of a chronic nature, until finally 6 months after its appearance, it began to fade gradually, and in January, 1904, it had entirely disappeared. The following September it again appeared, and progressed steadily until December, when the patches were thicker and more hyperemic than at any time during the previous attack, and her face was so involved that she would not venture outdoors. An operation was again strongly advised, and this time the patient consented. She was taken to the Moultrie Street Hospital, Dorchester, and on January 4, 1905, after curetting the uterus and removing the polypus, Dr. Sylvester performed a laparotomy, removing a small fibroid and attaching the uterus to the anterior abdominal wall. Four days later the eruption seemed much improved, and in two weeks it was no longer visible on the face. She made an uneventful recovery from the operation, and on the fifteenth day left the hospital. On March 1, less than two months after the operation, there were no visible signs of the eruption, except a slight erythematous appearance about the umbilicus and sacrum, where the most indurated patches had occurred. Up to the present time there has been no recurrence of the psoriasis or the leucorrhea, and she is in excellent health.

Dr. Sylvester said that psoriasis, in his opinion, is not of parasitic origin, nor is it an inherited sequel of syphilis, tuberculosis, rheumatism or gout. It is a manifestation of a toxicosis, and the case he reported together with others he has seen following vaccination and scarlet fever is in accord with that theory. Either the streptococcic infection of the throat, the administration of the antitoxin, or the infected endometrium, one or all, on the one hand, or the reflex irritation of the retroverted uterus and the presence of the tumors, on the other, furnished the cause. Relieving the leucorrhea, which was kept up by the polypus and the displaced uterus, in all probability effected the cure. A laparotomy diet for one or more weeks may not be without beneficial effects if psoriasis is due to an autointoxication.

DR. WILLIAM S. GOTTHEIL, New York City, said that the position taken by Dr. Bulkley marks a reaction against the purely local treatment of psoriasis which the Vienna school has long advocated. There are certain cases, no doubt, in which metabolic conditions are connected with the appearance and persistence of the eruption, but there are also a large number of cases in which nothing abnormal can be detected in the constitutional states of the patients. He recalled one case under his observation, the wife of a physician, who suffered from a recurrent attack of psoriasis every time one of her children was ill, or when she was worried from any other cause. When such an attack came on she was isolated in a room on the upper floor of her home, she was not allowed to be harassed by any household cares, and with practically no other treatment the eruption rapidly disappeared. Dr. Gottheil said that arsenic is beneficial in many cases of psoriasis, especially when given hypodermically and in large and in-

creasing doses. His favorite preparation is a 1 per cent. solution of sodium arseniate, repeated every day or every other day, until 40 drops are given in the course of 24 hours in appropriate cases. Externally, the preparations of tar are as useful as chrysarobin, and are much more commonly employed in Germany than in this country. Dr. Gottheil said that he has no doubt the *x*-ray is beneficial in some cases, but he has yet to see the psoriatic patch that will not respond to proper energetic local treatment. He agreed with Dr. Bulkley that it would be a good thing if patients with psoriasis would consent to remain under treatment for 2 years or more. The majority of them, however, grow impatient unless they obtain prompt relief. The practical conclusion is that these patients are relieved but not cured, and that a recurrence can usually be confidently looked for.

Dr. Francis J. Shepherd, Montreal, said that he is inclined to agree with those who attribute psoriasis to some fault in the metabolic processes, at least in many of the cases, if not all, even though it can not be detected. He referred to a case he saw a number of years ago, which was interesting in connection with a meat diet and its bearing on this form of eruption. The patient was an officer in the Hudson Bay Company who lived far north, and for about 10 months in the year subsisted on a meat diet almost exclusively. He had a very extensive psoriatic eruption, which disappeared permanently after he removed to Montreal, and gave up his meat diet. Dr. Shepherd also mentioned another case, that of a man who at times drank wine to excess, even indulging in prolonged sprees. At such times he had severe outbreaks of psoriasis, the eruption disappearing when he stopped drinking, and recurring with the onset of the next spree. Dr. Shepherd said that he is convinced that vaccination at times determines the outbreak of psoriasis in predisposed individuals, although if vaccination had not been the exciting cause, no doubt something else would.

Dr. James C. White, Boston, declared that he always tells his patients that psoriasis is in one sense an incurable disease. Some persons may have only one attack; others may have repeated attacks, and he does not believe that any medicine, either internal or external, will radically change the course of the disease to any material degree so far as its recurrence is concerned. In dealing with an affection which is capable of spontaneous disappearance, it is perhaps erroneous to draw deductions from its non-recurrence following any course of medication. Moreover, the course of the disease is so irregular and uncertain that it is difficult to draw conclusions as to whether or not it would recur after this or that method of treatment. With increased experience, he said he becomes less and less confident as to the value of internal remedies in this disease. He gives arsenic less than in former years, and in the chronic form of the disease he is inclined to rely more on potassium iodid. In acute cases he gives no internal remedies, except perhaps some alkaline preparation. Dr. White said that many years ago a statement was made by a physician of authority, who cited a large number of cases to prove his assertion, to the effect that the disease is curable by the use of an exclusively vegetable diet. A year or so afterward another, equally distinguished, put all his psoriatic patients on an animal diet, and his results were just as good. The important factor in the treatment of psoriasis, Dr. White said, is to put all the patients into as good a condition as possible. Psoriasis has been called the skin disease of health, because it is observed so frequently in patients who are otherwise perfectly healthy. He said that in some cases, but not in all by any means, the results of the use of *x* rays are marvelous, even in cases that have resisted every other method of treatment. In those very same cases the eruption may recur and the *x*-ray treatment prove without effect. Thus it is that the *x*-ray has only added one more uncertain remedy in the treatment of this disease.

Dr. W. D. Calvin, Fort Wayne, Ind., called attention to the fact that he has seen a psoriatic eruption disappear while the patient was suffering from pneumonia, only to reappear later. He has observed the same phenomenon during the course of an attack of inflammatory rheumatism, and has recently heard of an instance in which it disappeared during typhoid fever. These experiences seem to indicate that psoriasis is not the result of various kinds of intoxications, but of a special poison. He has seen cases in which the eruption yielded to almost anything; in others it persisted in spite of various methods of treatment. He has never resorted to the *x*-ray treatment in psoriasis, but has always endeavored to put the patient in as good a physical condition as possible, correcting errors of diet, methods of living, etc., but none of those measures has proved very satisfactory.

Dr. Gardner T. Swarts, Providence, R. I., said that acting on the theory that psoriasis is due to metabolic disturbance resulting from a deficiency of some of the glandular secretions, he has administered thyroid extract in a number of cases with apparently satisfactory results, only to have the eruption recur and disappear again under the use of potassium iodid, hydriodic acid, or alkaline treatment. Whether the various remedies that have been recommended ever cause the eruption to disappear, or whether the improvement is due to Nature, or to the peculiarity of the disease he said he would leave to the members of the Section to decide.

Dr. John B. Kessler, Iowa City, Iowa, said he is rather inclined to favor the use of salicin in preference to arsenic in the treatment of psoriasis. His experience with the *x*-rays in the disease has not been satisfactory. He asked Dr. Stelwagon what his experience has been with carbolic acid in the treatment of this condition.

Dr. Henry W. Stelwagon, Philadelphia, said that he believes that heredity, either directly or indirectly, exerts some influence on the development of this disease. In any predisposed person, any ill condition of health accompanied by fever may also be a contributing factor. There are many other contributing factors, but they should not be mistaken for the cause of the disease. In the treatment of psoriasis, the first essential is to put the patient in as perfect a condition of health as possible. The fact that the psoriatic eruption may disappear temporarily during the course of the acute exanthemata or any febrile condition is true not only of psoriasis but also of many of the inflammatory dermatoses, including eczema, dermatitis herpetiformis, etc. Dr. Stelwagon declared that he was surprised to hear that reference had been made, even negatively, to the possible relationship between syphilis and psoriasis. He had supposed that that question was settled long ago, and that the view that there is any association between the two diseases is obsolete. It is well known that psoriasis is a chronic, general disease, bearing no relation to syphilis. In regard to the various remedies and successful methods of treatment that have been loudly proclaimed at different times in psoriasis, Dr. Stelwagon said that, in his opinion, the result of treatment depends largely on the time of year when the case comes under observation. Take, for example, a patient who, during the winter, has been under the care of various physicians without being benefited. About May or June, at the approach of warm weather, when the disease shows a natural tendency to improve, he perhaps makes another change in his physician, and under almost any remedy the eruption often disappears, due largely to the seasonal influence. Dr. Stelwagon is in the habit of telling young men who suffer from psoriasis that they should reside in a warm climate, because the disease, as known in the north, is often extremely persistent and rebellious; but that it can be temporarily cured, though a recurrence is very apt to take place. In many psoriatic patients who have never taken arsenic, the drug seems to act almost like a specific. Thyroid extract is beneficial, but it has so many unfavorable effects that it is withheld until absolutely necessary. Carbolic acid, which was recommended long ago, in small doses, by Kaposi, has given good results in Dr. Stelwagon's practice during the past year, when administered in large dosage. He usually administers the drug in a 25 per cent. solution of glycerin and water, and gradually increases the dose until the patient is taking from 18 to 30 grains daily. The patient's urine should be watched for possible toxic action, but if the pure acid is used there are rarely any bad effects. Like other remedies, it gives the physician an opportunity of doing away with the arsenic treatment.

DR. F. A. KLEINHANS, Milwaukee, Wis., said that he has been a sufferer from psoriasis for 18 years, and has tried practically everything in the line of treatment both internal and external, the *x*-rays alone excepted. He is firmly convinced that psoriasis is not of parasitic or microbic origin, but is a cutaneous manifestation, due to faulty metabolism, in fact a sort of autointoxication. In sections of most recent psoriatic lesions excised from his own person, he has found a parakeratosis, i. e., a thickening of the horny layer and dilatation of the vessels of the corium and round cell infiltration surrounding the dilated vessels and the sweat coils. Among other methods he has tried the hypodermic use of arsenic (as Fowler's solution) and found it very painful. At times he can rid himself very readily of the lesions in the course of a week or two by taking 5 grains of bicarbonate of potash 3 times daily; at other times this remedy has no effect. Sometimes Fowler's solution proves beneficial and again it fails, or even aggravates the condition. Thyroid extract has also been tried without any effect. He believes that there is no one remedy that can be depended on in all cases at all times.

DR. WILLIAM L. BAUM, Chicago, said he has always regarded psoriasis as a dermato-neurosis. In the first place, there is a distinct hereditary tendency to the disease, as it can be traced from generation to generation, following practically the same type as does a psychosis. The mere fact that so many remedies have been recommended by different authorities indicates that the opportune moment effected the cure rather than the remedy. He has frequently observed exacerbations of the disease after violent emotional disturbances. The eruption may disappear rapidly when the patient is placed under a different environment. This does not depend so much on the climate, as the disease is observed in both warm and cold climates. In the majority of cases, the patients should be made to understand clearly that the disease is incurable, although in some instances it is limited to a single outbreak. Vaccination and injections of antitoxin may be exciting factors in causing an outbreak. In Cook County Hospital, Chicago, about 3,200 patients have been given injections of antitoxin and a decided number of the patients injected have returned with psoriatic efflorescences attributed to the antitoxin. Still, any other form of irritation might have the same effect. In over 70 per cent. of the patients who returned, Dr. Baum was able to get a history of psoriasis either in the parents or grandparents, or in some collateral branch of the family. In the treatment of psoriasis, the possibility of neurotic origin should always be remembered.

DR. DAVID LIEBERTHAL, Chicago, said that all are agreed as to the difficulties connected with the management of psoriasis. It is difficult to have a patient carry out such strict diet as Dr. Bulkley demands. Dr. Lieberthal has under his care a patient with psoriasis who years ago was treated by Dr. Bulkley and freed from the disease through the diet treatment exclusively. But the patient remarked that he would rather keep his skin affection than undergo such a diet treatment again. It can not be denied, however, that regulating the diet of certain patients with systemic derangements will bring about good results. Dr. Lieberthal has under his care a patient who for 16 years was not relieved of his affection in spite of having had the benefit of the best dermatologic care here and abroad. The patient's urine was loaded with urates and uric acid and after his diet was accordingly modified, the skin cleared up and remained so until his death, 18 months later. It is important to see the patients at short intervals in order to observe the lesions and to control the internal administration of drugs. External treatment should be employed with due diligence and if chrysarobin is applied, it should not be allowed to spread to the normal skin, otherwise it is apt to produce a dermatitis, on the basis of which new psoriatic lesions may develop. Arsenic should be administered rather in older cases of limited area. If Fowler's solution is used a fresh preparation should be secured as the older becomes inert. Dr. Lieberthal said that he uses the *x*-ray in psoriasis, but only in the severe inveterate cases. Any treatment employed should be carried out until the last traces of the disease have disappeared.

DR. L. DUNCAN BULKLEY, New York City, said that he has used carbolic acid in psoriasis, and knows what it will do in certain cases. He thinks it entirely erroneous to regard psoriasis as incurable. He also disagrees with those who claim that it is impossible to get patients to live on a vegetable diet. He had one psoriatic patient who has been a vegetarian for 10 years, and a number who have abstained from animal food for from 3 to 4 years. He has seen psoriatic outbreaks following a shock or mental strain. In the treatment of psoriasis, patients should be kept under observation for a long time after the eruption itself has actually disappeared. The same thing is done in syphilis and in gout. Psoriasis can be cured in a certain proportion of cases. Those not cured are the ones in whom the basic cause of the eruption can not be discovered.

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# UNILATERAL ASCENDING PARALYSIS AND UNILATERAL DESCENDING PARALYSIS.

## THEIR CLINICAL VARIETIES AND THEIR PATHOLOGIC CAUSES.*

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In December, 1899, I presented a paper to the Philadelphia Neurological Society in which I called attention to a new clinical type which I designated as unilateral progressive ascending paralysis.[1] Somewhat similar cases have since been described under such terms as progressively developing hemiplegia, chronic progressive hemiplegia, and ascending unilateral paralysis. Unilateral ascending paralysis is probably the simplest and, therefore, the best designation for the symptom-complex.

Since the publication of the first contributions on this type of paralysis, the subject has attracted some attention, but not perhaps as much as its importance warrants. Probably not a few cases of progressively ascending hemiplegia or hemiparesis have failed of record because of the slowness of development of the affection and the overlooking of the essential feature of upward progression. Some cases have, no doubt, been passed by as lacking in interest, or as probable instances of focal disease not worthy of elaborate report.

Practical medicine is advanced by directing attention to clinical types or entities which are peculiar in their method of development, their symptomatology or their pathologic causes. One point which has been brought out during the brief history of the existence of progressively ascending hemiplegia is that unilaterality and upward progression of the paralysis are exhibited by affections differing in their pathology.

A close study of the recorded cases of unilateral ascending paralysis shows that this clinical type in a more or less pure form may occur, 1, as the result of primary degeneration of the pyramidal tracts to which may be added other degenerative lesions; 2, as the early stage of disseminated sclerosis; 3, as the form assumed by unilateral amyotrophic sclerosis; 4, as the order of progression in unilateral paralysis agitans; 5, as the expression

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* From the Department of Neurology of the University of Pennsylvania.

1. Jour. Nerv. and Men. Dis., April, 1900.

of a focal lesion either cerebral or spinal; 6, as a clinical type in cerebrospinal syphilis; and as a peripheral or a hysterical affection.

In my description of the first case (rather of the first two cases of unilateral ascending paralysis, for brief account was given of a second case seen many years before the publication of the paper), I suggested that the disease probably represented a new clinical type due to slowly increasing degeneration of the pyramidal fasciculi or of the cerebral motor neuron systems.

The cases which have been recorded by others as well as by myself, since attention was first called by me to the clinical type of ascending hemiplegia, even those cases which have been regarded as instances of pyramidal degeneration, have varied somewhat in their clinical features. In some, for example, spasticity has been present from an early period; in others it has been absent or has been but slightly marked. The reflexes, usually exaggerated, have in one or two instances been diminished or only moderately marked; the wasting usually present but moderate has varied in amount in different cases. As the literature of this affection is still meager, I shall take occasion to give a résumé of all the cases so far published, unless, indeed, some reported case has escaped my investigations.

Before doing this, however, I desire to direct attention to unilateral descending paralysis, which is to be regarded as simply the same type reversed. Unilateral ascending paralysis due to degeneration of the pyramidal tracts, or to this and some added condition of degeneration, is the more common form of progressively developing hemiplegia, but an affection essentially the same sometimes takes a reversed order so far as the limbs or as the face and limbs are concerned, giving us a unilateral descending paralysis or a progressively descending hemiplegia. Through the courtesy of two of my professional colleagues in Philadelphia, Dr. David Riesman and Dr. William Pickett, I shall have the opportunity to present in the concluding portion of this paper two cases of this descending type, the one an example of disseminated sclerosis taking at first the unilateral descending and systemic form, and the other probably an instance of nearly pure pyramidal degeneration.

That the suggestion of a new clinical type is sometimes fruitful in the development of diagnosis is illustrated by the brief history of progressively developing hemiplegia. The report of two or three cases of unilateral ascending paralysis of unusual form has called attention to the question of ascending and descending unilateral types of certain well-known diseases, such as disseminated sclerosis, paralysis agitans and amyotrophic lateral sclerosis. Variations in the symptomatology of these reported cases have also awakened interest as to the probably differing pathology of some of the cases recorded.

After summarizing in the briefest manner possible the cases of unilateral ascending paralysis hitherto published, and after some discussion of the different forms of disease of the nervous system which may present a progressively developing hemiplegia, ascending or descending, I shall record one new case of unilateral ascending paralysis and one new case of unilateral descending paralysis, describing also the case referred to me by Dr. Riesman, when considering the unilateral ascending and the unilateral descending types of disseminated sclerosis.

CASE 1.—A man, aged 52, about two years before coming under observation,[1] began to show signs of weakness in the right lower extremity. Weakness in the arm appeared eighteen months after the impairment in the lower extremity was first noticed. This soon became more and more evident, and was accompanied by the tendency to carry the arm raised against the body and flexed at the elbow.

When first examined the paresis in the upper extremity, although easily determined, had not nearly reached the degree of impairment observed in the leg. The right side of the face was also slightly paretic. Wasting was distinct in the right lower extremity, the measurements showing a difference of one and a half inches for the thighs and five-eighths of an inch for the calves. The various movements of the right leg were distinctly weaker than those of the left, but were nowhere absolutely abolished; similarly all the movements of the right arm were distinctly impaired. Faradic contractility was retained. The affected limbs were not spastic nor contracted. Careful examination showed retention of all forms of sensation. The tendon and muscle phenomena on the right side were all somewhat exaggerated. Knee-jerk was plus on the left side, but considerably more exaggerated on the right. Patellar clonus and slight ankle clonus were present on the right, but not on the left. The plantar reflex was normal on the left; but on the right, while the Babinski response was not present, downward flexion of the toes was distinctly less marked than on the left.

CASE 2.—A woman, aged 43, first noticed weakness in her left leg while pregnant with her last child, three years before coming under observation.[1] A few months later the left arm became paretic. The reflexes were much increased on the affected side. The patient remained under observation for many months, the paresis of the leg and arm slowly increasing. Neither leg nor arm was contractured, and sensibility was preserved. The patient complained at times of pains in the limbs and twitching in the leg and arm.

This woman was under my care more than 20 years ago and had previously been a patient of the late Dr. E. C. Seguin, who believed that there was a cerebral lesion causing secondary changes in the crossed pyramidal fasiculus. The view taken by me was that the alterations in the pyramidal tracts were of the nature of a lateral sclerosis, but were primary and not secondary to any cerebral lesion. I have learned that the patient was alive about fifteen years after she was first seen by me and had become entirely unable to walk. Just how she was affected at this time was not ascertained, except that she had become triplegic, the affection having evidently passed over to the lower extremity on the side opposite to that on which it had started.

CASE 3.—A man, aged 41, four years before coming under the notice of the reporter,[2] began to have a sense of weakness in the left lower limb in walking. This weakness gradually increased, and in about a year the left upper limb began also to be weak. The patient was positive that a year had elapsed after the impairment in power in the lower limb before he felt any weakness in the left upper extremity. He had never had any symptoms of an apoplectic seizure.

This showed that the movements of the left lower limb were very spastic, but not in the least ataxic. The toes of the left foot scraped the ground, and this foot was inverted in walking. The left knee-jerk was much more marked than the right, which was, however, prompt. Ankle clonus and the Babinski response were present on the left, but not on the right. Sensation was normal. The left upper limb was weaker than the right; it was also spastic, but the weakness and spasticity were less than in the lower extremity. The left upper limb was held slightly flexed at the elbow and against the body, but no contractures were present anywhere. Speech was normal, but the mouth could not be drawn up as well on the left side as on the right. The tongue went slightly to the left on protrusion. Ophthalmoscopic examination showed white atrophy of the left optic nerve. Wasting which was present was like that occurring in hemiplegia.

CASE 4.—A youth, aged 19, about four years before coming

2. Spiller, William G.: Philadelphia Med. Jour., Feb. 9, 1901.

under observation[3] began to drag his right foot; it tended to cross in front of the left, and he wore off the sole of his right shoe at the toe. Two years later he had diplopia, which lasted for five months. The right leg at this time was somewhat smaller than the left. About three and a half years after the right foot first began to drag, which was about five months before coming under observation, weakness was noticed in the right arm.

Examination showed that when the patient walked the right leg was rigid and the toe dragged. The movements of the right leg could be performed, but were distinctly weaker than those of the left. The right leg and arm were both somewhat atrophied. The adductor pollicis muscle of the right hand was not so large or firm as that of the left. The muscles everywhere responded to the faradic current; the tendon reflexes on the right were all exaggerated, and a well marked Babinski reflex was present on this side. The reflexes on the left, while marked, were much less active than those on the right. Plantar stimulation caused slight extension of the great toe and flexion of the others. Right-sided facial paresis was present. The muscles of the right side of the throat were also paretic, and the voice had a distinct nasal twang. Nystagmus and paresis of the left inferior rectus, and pallor of the temporal halves of the discs were other symptoms. All forms of sensibility were everywhere preserved. The patient showed a slight Romberg symptom, and at times while standing or walking, a tendency to lose his balance. The case was regarded as one of disseminated sclerosis, beginning as unilateral ascending paralysis.

CASE 5.—A man, aged 60 at the time of his death, about eight years before had some paralysis of the right extremities.[4] At this time knee-jerk and biceps-jerk were increased on the affected side. Four years before his death hospital notes showed some loss of power in both the right leg and right arm; and all the muscle and tendon phenomena on the right side were exaggerated, patellar clonus and ankle clonus both being present; also the speech was slightly affected, and sensory impairment and astereognosis were absent.

Notes made between two and three weeks before death showed that he was markedly paralyzed in the right leg, and to a less extent in the right arm; also that he was paralyzed in the left leg, but not as seriously as the right. The paralyzed limbs were spastic, and the tendon and muscle phenomena were all exaggerated. He had ankle clonus on both sides, and patellar clonus and the Babinski response on the right. Sensory phenomena were absent. The face was not paralyzed. Contractures and wasting were absent. During two or three years before his death he was treated for cardiovascular symptoms, including attacks of angina.

Postmortem showed advanced disease of the heart, vessels and kidneys, the case being an extreme instance of arteriosclerosis. Chronic pleurisy and tuberculosis with cavity formations were present. Microscopic examination showed intense and long standing degeneration of the right crossed and left direct pyramidal tracts, the degeneration extending into the pons, but not into the left cerebral peduncle; also comparatively recent degeneration of the left crossed and the right direct pyramidal tracts, traced by the method of Marchi into the lower part of the right internal capsule. No lesions, degenerative or focal, were found elsewhere in the brain or spinal cord.

CASE 6.—A young woman, aged 18 at the time of first coming under observation,[5] was noticed to show slight clumsiness and awkwardness in using the right hand and foot shortly before the age of fourteen. Gradually the weakness of the right lower and upper extremities increased, this from description being more marked proportionately in the former than in the latter. When between seventeen and a half and eighteen years old a slight swelling of the right half of the thyroid was noticed.

Examination showed no abnormality of cutaneous and muscular sensibility nor of the special senses. Pupillary reactions, movements of the ocular muscles and the fundus oculi were all normal. The sphincters were also normal and the patient was mentally sound. The reporter gives in careful detail a description of the musculature and of the movements performed or incapable of proper performance on the right half of the body. Summarized, this indicated marked loss of power and atrophy in both the right upper and lower extremities, considerably greater in their distal than in their proximal portions. The affected limbs were neither spastic nor ataxic, but gave rather the appearance of flaccidity or flabbiness. The paralysis and atrophy were not localized to special groups of muscles. Marked quantitative change to the faradic current was present, being especially noticeable in the muscles which showed the greatest wasting, these being the hand muscles, the anterior tibial and the peroneal. All the deep reflexes were greatly exaggerated on the right side. The Babinski extensor response was typically present, but there was only an indication of ankle clonus. Some paresis of the muscles supplied by the seventh nerve and marked loss of power in the motor distribution of the fifth nerve were present.

CASE 7.—A woman, aged 50, was seen in consultation in October, 1905.[6] In August, 1904, she first discovered some weakness of the right lower extremity, although it may have been present in mild degree before. The weakness and awkwardness in using the limb very gradually increased until about one or two months before coming under observation, since which time the impairment had increased more rapidly. The patient had suffered no pain in the extremity, in the back or in the head, and had no symptoms of cerebral disease. She had occasional headaches which seemed to be of the migraine type, and now and then had a slight vertigo, but this was probably due either to the condition of her stomach or to some arteriosclerosis.

Examination of the right lower extremity showed general paresis of moderate degree in the entire limb; that is, all movements were impaired in force without definite localized palsy of any group of muscles. The movements of flexion, extension, abduction and adduction of the foot and also intermediate movements were distinctly impaired as compared with those of the left foot, but the reduction in power extended to the entire limb, although it appeared to be more marked distally. The right knee-jerk was greatly exaggerated and patellar clonus could be elicited. Persistent ankle clonus and also a decided Babinski response were present on the right. Front tap was present and marked on the same side and the muscle jerks were also plus on this side. On the left the knee-jerk was somewhat above the usual norm, as were also the muscle jerks, but patellar clonus and front tap were absent. The plantar response on this side was irregular. Careful examination was made for sensory disorders, with absolutely negative results. Examinations seemed to show some slight impairment of the upper extremity, but so slight that it was hardly fair to record it as present.

CASE 8.—A young man, aged 23, complained that for six months his left leg had been growing gradually weaker. He would sometimes trip because he could not clear the ground well with the tip of his left foot. At times also he could not use the left arm well. His condition for about one year is described by the reporter.[7]

His walk suggested a foot drop on the left side, but did not show the circumduction frequently exhibited by hemiplegics. Dorsal flexion of the foot was very feeble, movements of the toes being almost completely lost. Movements at the left knee and hip could all be performed, but with less force than on the right. Knee-jerks and heel-jerks were lively on both sides, but much more marked on the left than on the right, and after three or four months ankle clonus could be elicited. The Babinski response was absent on both sides. The entire left lower extremity was not spastic but flaccid and the seat of general wasting. The left upper extremity was smaller than the right. Atrophy was also distinctly shown in the neck and shoulder. As time progressed the left upper extremity became completely paralyzed. The left face showed no paralysis or atrophy.

3. Potts, Charles S.: Jour. Nerv. and Ment. Dis., xxxviii, No. 10, October, 1901.

4. Mills, Charles K., and Spiller, William G.: Jour. Nerv. and Ment. Dis., July, 1903.

5. Patrick, Hugh T.: Jour. Nerv. and Ment. Dis., xxx, August, 1903.

6. Mills, Charles K.: Jour. Nerv. and Ment. Dis., xxxiii, No. 2, February, 1906.

7. Newmark, L.: Jour. Nerv. and Ment. Dis., xxxiii, No. 3, March, 1906.

Examinations made several years after the first observation of the patient gave, by the Oppenheim method, a flexor response in the smaller toes of the right foot, and a distinct extensor response in the big toe of the left foot. The response to both the faradic and galvanic currents was normal. All forms of sensibility, the special senses, and the bladder and bowels were normal. Absence of exaggeration of the deep reflexes in both upper extremities was an incongruous feature of the case.

These cases represent the literature of this subject as known to me up to the time of the preparation of this paper. They all seem to present in their symptomatology evidences of the probable degeneration of the pyramidal tracts, crossed and direct. I shall recur again to Case 1, when discussing the subject of the unilateral ascending type of paralysis agitans, which this case was believed to be by Patrick. Whatever the case was in its totality, it certainly presented some of the features of a case of pyramidal degeneration. Case 2, seen by me more than 20 years ago, and, therefore, in reality, the first case observed, was without doubt one of progressive ascending hemiplegia due to pyramidal degeneration. Cases 3, 5, 6, 7 and 8 seem to belong to the type first indicated by me, although differing in some features, especially as regards spasticity, the reflexes and wasting. The solution of these differences can only be had as we gain more knowledge by the study of cases, and especially as we acquire additional pathologic data. Case 5, that of a patient originally observed in my wards at the Philadelphia General Hospital, and published by me in conjunction with Dr. Spiller, is the only one as yet in which necropsy and microscopic examination have shown degeneration limited or almost limited to the crossed and direct pyramidal tracts. Case 4, recorded by Potts, was, in all probability, as he suggests, one taking the form of unilateral ascending paralysis in a comparatively early stage of disseminated sclerosis. This case will be presently referred to again when considering the unilateral ascending type of disseminated sclerosis.

I shall next present the details of an unrecorded case of unilateral ascending paralysis—one which does not seem to belong clearly with any one of the 8 cases just summarized. It is apparently an illustration of cerebrospinal syphilis, taking the unilateral ascending form.

CASE 9.—The patient, a man, aged 55, had no family history of importance. He had worked in lead 10 years before coming under observation. Four years before this time his right leg began to grow weak, the impairment of power steadily increasing. The veins of the right leg were markedly varicose. A dull aching pain developed in the heel and in the calf in the region of the varicose veins. The aching had grown worse with the weakness. Three years after the onset he first began to notice weakness and aching in the right arm, these increasing steadily. Shortly after this weakness became noticeable in the left knee and ankle, with some ache in the heel. The left arm remained normal. The bladder and bowels were not involved. He occasionally suffered from backache.

Examination showed that in walking the patient dragged his right leg. Power in the right leg was greatly diminished but normal in the left. The right arm was weaker than the left. The right lower face was paretic. He could not draw the right angle of the mouth up; on smiling the left angle of the mouth was drawn upward more than the right. He could wink each eye separately, the left better than the right. Patient stated that his left arm and leg were beginning to feel as the right extremities felt a year or more before. Muscular atrophy was absent. Standing with his eyes shut he almost fell. Both knee-jerks were exaggerated, the right more than the left. The ankle-jerk was exaggerated on the right but diminished on the left. The Babinski response was obtained on the right, but not on the left. Biceps and triceps reflexes were increased on the right and normal on the left. Sensation for touch and pain was normal in the extremities and in the face. Speech was normal.

Eye examination revealed extensive chorioretinitis with well advanced optic nerve atrophy. The pupils responded sluggishly to light and more promptly to convergence. No diplopia or muscle insufficiency was present. The fields were much contracted, especially on the temporal side. Patient passed from under observation before an entirely satisfactory investigation of his case was made.

### UNILATERAL DESCENDING PARALYSIS.

I had the opportunity of seeing and studying the following interesting case through the courtesy of Dr. William C. Pickett, of Philadelphia, whom I had requested, with others, to be on the lookout for cases of unilateral ascending and unilateral descending paralysis. Dr. Pickett, on first seeing the case, at once recognized that it belonged to the type of progressively developing hemiplegia, in this case taking a descending course.

CASE 10.—A woman, about 45, had been well until three years before coming under observation, when for the first time she noticed a weakness in the left arm on attempting to use it. She soon lost the power of lifting and projecting the arm. The impairment of power became more marked in the distal than in the proximal portion of the limb, and a few months after the onset of the paresis the movements of the hand at the wrist and those of the fingers became much impaired.

About one year from the time when the arm was first affected she noticed some weakness in the left leg. In describing the condition of her lower extremity at this time she said that she felt as if she made miscalculations in stepping up or down. In walking, the toes and fore part of the foot would catch or not be lifted properly, causing her to stumble. She soon had a limping or dragging gait. In the course of five or six months a marked degree of paralysis developed in the left lower extremity. The left upper and lower extremities had been in a condition of gradually increasing helplessness during the last 18 months. The patient said that she felt as if she had to carry them with the other part of the body. She had also a curious feeling of loss of power in the abdomen or bowels of the left side. Her face and ocular muscles had not been affected.

Neither before nor since the coming on of the paralysis the patient had not had any severe headache, paroxysmal or continuous, or any spells of nausea, vertigo or vomiting. She had also had, so far as she knew, no disorder of sight, hearing, smell or taste. She had had no loss of control or other affection of the bladder. She had had no double vision or no difficulty in dragging in the affected limbs. Her menses had continued regular, and her bowels had also been regular with the exception of occasional constipation.

Careful examination gave the following results: Left arm was limp or flaccid, the only place where any contractures were shown was in the fingers, which were half flexed at the first and second phalangeal joints, but this condition of contracture was a passive rather than an active one. The bend of the fingers was evidently due rather to loss of power in the extensors than to any active spastic condition of the flexors. The fingers and thumb dropped into the hand. The loss of power in the limb was greater distally than proximally. She could elevate the entire extremity to an angle of only about 45 to 50 degrees with the shoulder. She could, however, bend the forearm about half way, and extend the arm against resistance, but with about half the normal power; in other words, the movements of the upper arm were considerably impaired but all retained. She could not pronate or supinate the forearm; she could not flex the hand on the wrists; she could not ulnar flex it or fully extend it, but had some power of extension, especially showing itself toward the radial side of the hand. She could not extend the fingers at the metacarpophalangeal articulations or distally. She had some slight flexor power in the movements of the fingers. She could adduct and abduct the thumb which lay helpless toward the palm. Inspection showed some apparent slight wasting of the supra-scapular muscles and perhaps of the small muscles of the hand.

There was not, however, the distinct atrophy which is so marked in amyotrophic lateral sclerosis and progressive muscular atrophy of the Aran Duchenne type.

MEASUREMENTS OF THE UPPER EXTREMITIES.

| | | | |
|---|---|---|---|
| Middle of left forearm | 7⅝ in. | Middle of right forearm | 7⅝ in. |
| Left hand | 7 in. | Right hand | 7½ in. |

She dragged the left leg in walking, but not with the circumduction movement of the foot which is shown in so many cases of hemiplegia. The lower extremity, like the upper, was partially paralyzed, but not in any part quite as markedly affected as the upper extremity. The loss of power was more marked distally than proximally. The movements of the left foot were tested and compared with those of the right, and all were found greatly impaired but none completely lost. Those most affected were dorsal flexion of the foot and dorsal flexion with adduction. The arch of the foot was somewhat flattened; the foot showed a tendency to turn outwards, exhibiting a partial valgus. The movements of the leg on the thigh, of the thigh on the pelvis and all other movements of the thigh could be performed with considerable force, but less energetically than the corresponding movements on the right side. The muscles of both the lower and upper extremities responded everywhere to the faradic current, but with some quantitative diminution, particularly in the upper limb.

MEASUREMENTS OF THE LOWER EXTREMITIES.

| | | | |
|---|---|---|---|
| Middle of left leg | 11½ in. | Middle of right leg | 12⅛ in. |
| Left foot | 7¼ in. | Right foot | 7½ in. |

The two sides of the face were symmetrical. She had about equal control over the movements of the left and of the right side of the face. The tongue was protruded straight and showed no fibrillary tremor. No loss of power was present in the masseter, temporal and pterygoid muscles. Ocular movements were normal; there was no nystagmus. Articulation, enunciation, phonation and swallowing were normally performed. The pose of the body and head and the facial expression had none of the appearances seen in paralysis agitans. Knee-jerk and quadriceps jerk were much exaggerated on the left; they were present but not increased on the right. Patellar clonus was absent on both sides, as was also ankle clonus, although a slight tendency to clonus was twice shown on the left. Achilles jerk was marked on each side. A typical Babinski reflex was present on the left, the great toe extending distinctly and somewhat deliberately, the other toes more quickly but less decidedly. On the right the small toes were plantar flexed on stimulation of the sole, the great toe sometimes extended and sometimes flexed, but when it extended it was not in the same typical and deliberate manner as on the other side. Examination of the upper extremities was made for the wrist, and elbow jerks and the von Bechterew reflex and its modifications. The jerks were a little more marked on the left than on the right; the most marked responses were the triceps and the infra-spinatus which, while not greatly exaggerated, were undoubtedly more marked on the left than on the right side.

Well marked anesthesia to touch, pain and temperature was nowhere present, but careful and repeated examinations showed slight hypesthesia on most of the left half of the body like that so often seen in hysteria and hystero-neurasthenia of traumatic origin. Her answers, however, were not uniform as to the limitations of this slight hypesthesia. Above the waist, for instance, her replies seemed to show that the sensation was fully retained nearly all over the region of the left scapula and of the deltoid.

Dr. G. E. deSchweinitz made the following report: Vision, right eye 6/5; left eye, 6/5. A., right eye, 6.5 D; left eye, 6.5 D. Pupils normal in all their reactions; equal in size. No diplopia; no limitation of rotations of exterior ocular muscles. Esophoria less than one degree. Optic discs of good color; retinal circulation normal in distribution and carrying normally tinted blood; slight enlargement of retinal veins, but no decided disproportion between size of veins and arteries. No ophthalmoscopic changes in the retina or choroid. Dr. deSchweinitz remarks that the ocular examination is practically negative; that the eyes are normal; that a slight contraction of the color fields found to be present is probably due to lack of concentration from retinal tire induced by long examination. This ocular examination is important as indicating the absence of a focal lesion like a cerebral tumor.

This interesting case, which I examined with great care, is an excellent illustration of a progressively developing descending hemiplegia in all probability due to primary degeneration of the pyramidal tracts, with possibly some slight involvement of other parts of the neuraxis. With the exception of the slight hypesthesia on the affected side, the case was purely motor, and had the usual diagnostic concomitants of a purely motor case, namely, abnormal increase of the deep and superficial reflexes. The hypesthesia, like the sensation of dragging of the limbs, seemed to be due to suggestion. The case in this respect reminded me of the idea long since advocated by Charcot, that the slight or moderate impairment of sensation sometimes observed in cases apparently due to a strictly motor cerebral lesion was sometimes best explained on the hypothesis of hysteria or suggestion. It undoubtedly belongs to the clinical group of unilateral descending paralysis, the pathology being the same as that which is present in at least some cases of unilateral ascending paralysis, the degenerative lesion, however, having developed in the upper part of the spinal cord and later in the lower. It is unlike the cases presently to be described, the one referred to me by Dr. Riesman, in which some of the symptoms seemed to point unerringly to a disseminated sclerosis beginning as a descending hemiplegia. The descending types of amyotrophic lateral sclerosis and of unilateral paralysis agitans could be easily excluded, the former chiefly by the absence of true spasticity, decided wasting, fibrillary tremors, and partial degeneration reactions; the latter by the absence of tremor, masked face and fixed pose and all the truly typical features of Parkinson's disease. Nystagmus, disorders of speech and other symptoms and signs of disseminated sclerosis were absent. The case was inexplicable on the theory of a focal lesion; syphilis, hysterical paralysis and peripheral disease could all be excluded.

### UNILATERAL ASCENDING TYPE OF DISSEMINATED SCLEROSIS.

Disseminated sclerosis may first show itself as a spastic paralysis which, beginning in the one lower extremity, ascends in a greater or less time to the upper. It can not be doubted that Case 4, reported by Potts, is one of this kind, as in addition to unilaterality and progressive ascent, this patient showed several of the typical signs of disseminated sclerosis, as nystagmus, pallor of the temporal halves of the discs and some incoördination in standing and walking. In cases of this description it is altogether probable that the sclerosis at first largely attacks the pyramidal tracts and assumes an almost systemic form. This tendency, to a large degree of systematization, is sometimes observed in cases of bilaterally beginning and progressively increasing disseminated sclerosis.

A case of the hemiplegic form of disseminated sclerosis recorded by Thomas and Long[8] differs from the case of Potts in that the symptoms were not purely motor.

CASE 11.—A man, aged 47, seven years before his death became paretic in his right leg, the impairment of power increasing and having added to it diminution of sensibility and incontinence of urine and feces. Some improvement in the symptoms in his right leg occurred, but two years before his death these gradually increased and numbness and paralysis in the right

8. Thomas, A., and Long, E.: Compt. rend. hebd. des Seances de la Soc. de Biol., Oct. 13, 1899, No. 28.

arm appeared. The year before his death he had almost complete paralysis in the right lower extremity with contractures, exaggerated deep reflexes on the affected side, including ankle clonus; also slight atrophy of the lower extremity. The right upper extremity was a little paretic, the reflexes at the wrist and elbow were exaggerated in both upper extremities, but more on the right. Marked anesthesia was present in the right lower extremity and the right half of the trunk, and a hypesthesia in the hand and forearm. The special senses were unaffected. He died of an attack of acute pleurisy.

Plaques of sclerosis which, from their position and extent, explained the characteristics of the symptomatology and progress of the cases were found in the cervical and thoracic cord.

### UNILATERAL DESCENDING PARALYSIS IN DISSEMINATED SCLEROSIS.

In rare instances, a form of more or less slowly descending paralysis is observed, that is, of paralysis beginning in the arm and face and later involving the leg. This, of course, is known to occur somewhat frequently in paralysis agitans, although after the plastic rigidity with or without tremor has attacked one upper extremity it is perhaps just as likely to cross to the opposite leg as to pass to the leg of the same side. Dr. David Riesman, of Philadelphia, has furnished me with the notes of a case which appears, when closely analyzed, to be one of disseminated sclerosis in which the paralytic, spastic and tremulous phenomena were first most marked in the upper extremity. So far as the limbs were concerned, the affection was, up to the time when the last notes were made, unilateral in its distribution. Some question may arise in the consideration of this case as to whether it is one of disseminated sclerosis of unilateral and descending type or a form of slowly developing unilateral paralysis due to meningomyelitis or some other form of specific lesion. On the whole, however, it would seem to me that the diagnosis which fits the case best is that of disseminated sclerosis, in the stage when the record was made, of unilateral and descending form.

The patient was a man forty-three years old whose father died of nephrolithiasis at the age of sixty-three and his mother of apoplexy at the age of fifty-eight. One brother was in an insane asylum for two periods of six months each.

CASE 12.—Patient had primary specific lesion at the age of 26, accompanied by alopecia and later by secondary eruptions on the abdomen, thorax and arms. He took medicine for this disease for one year. He had pyelitis 8 years before coming under observation, suffering from this affection for one year. According to his statements, he is especially subject to erysipelas, which he had had about six times in all. Two of the attacks of erysipelas he had had within 18 months, the supraorbital and infraorbital regions being affected. The patient's most evident symptoms when he came to the hospital were partial loss of motor power in the right upper and lower extremity, accompanied by violent coarse tremors of the extremities when he attempted any movements of them. He limped somewhat with the right leg. He dated his present trouble to two years before he was seen, when he began to have a dull heavy feeling in the right shoulder. He then began to lose control of the right arm, which loss of power was accompanied by trembling of the arm when he attempted to use it. He stated that within the last year, that is, about a year after the onset of the paralysis and tremor in the arm, the right lower extremity had troubled him because of a loss of power in this part. He had had sharp shooting pains in this lower extremity. He had been able to walk in the dark without falling. Both bowel and bladder control had remained intact. He had never had any girdle sensation. Consciousness had never been lost.

This showed his speech to be somewhat monotonous, with a tendency toward scanning speech; spasticity of right leg, thigh and arm; marked intention tremor of the right upper extremity; fibrillary tremor of the tongue; some right-sided suprascapular atrophy; nystagmus; increased right knee-jerk with slight ankle clonus; normal reaction of pupils to light and distance; and intact sensation. Later notes made by Dr. Riesman showed that the left pupil was larger than the right; also that the pupils reacted sluggishly both to light and accommodation, the left not as well as the right. There was also no apparent contraction of the visual fields. The tremor in the right upper extremity was most noticeable when moving from a resting position and it seemed to disappear at times when the arms were supported. It was very noticeable when the arm was held free. The tremor was not rotary or rhythmic, but jerky and varying in amplitude. No pill-rolling motion like that seen in paralysis agitans was present. The patient tended to hold the fingers somewhat flexed at the knuckles. The hand, arm and shoulder girdle showed no atrophy. All movements of the upper extremity could be performed, but were affected by the tremor. Slight tremor was present in the right leg on its being moved, with no wasting of this extremity and no apparent shortening, although the patient said that the leg felt shorter than the other. Extension and flexion of the right foot were ample, but more sluggish than similar movements of the other foot. There was marked limitation of rotation of the right leg; other movements were normal. Knee-jerk was increased on the right side; slight tendency to ankle clonus was shown and a marked Babinski reflex was present on this side. Sensation was normal. The gait of the patient was hemiplegic, the right leg being dragged somewhat. Distinct right-sided ptosis is noted in one entry. The lungs, heart, blood, abdominal viscera and all parts of the body were carefully investigated, and notes of these examinations have been furnished me by Dr. Riesman, but as they seem to have no special bearing on the man's nervous disease they have been omitted for the sake of brevity.

Pupils 4 m.; irides react to light and accommodations; tension normal; in the right eye the media were clear and the disc pale, showing atrophic excavations; there was myopic astigmatism, 1 D. The left eye was the same as the right. Ocular movements were unimpaired. It is stated in the history that the patient had diplopia fifteen years before coming under notice, this having been corrected by glasses.

### ASCENDING TYPE OF UNILATERAL AMYOTROPHIC LATERAL SCLEROSIS.

Unilateral amyotrophic lateral sclerosis, a comparatively rare form of amyotrophic disease, is occasionally ascending, although this is not the rule. Spiller[9] succeeded in collecting 10 cases of unilateral amyotrophic lateral sclerosis; of these, four were with necropsy. Three of the ten were of ascending type (Vierordt, Mott, Senator). To these is added a case of his own, with necropsy and microscopic examination.

The paralysis began in the right lower extremity, passed to the upper limb of the same side, and later to the left lower extremity, the left upper extremity being also eventually slightly involved. In this case, besides spastic paralysis and abnormally exaggerated reflexes, considerable atrophy was present in the right upper extremity. Degeneration in this case was found in the ventral horns as well as in the pyramidal tracts. It is probable that, at least, in some cases which begin with pyramidal tract degeneration, if the patient lives long enough the ventral horns eventually take part in the degeneration; although, as already shown in the case recorded by myself in collaboration with Dr. Spiller,[4] pathologic examination showed that the cells of the ventral cornua were not involved to any appreciable extent in this unique case.

After the publication of the paper by Spiller, an additional case of amyotrophic lateral sclerosis, at first uni-

9. Spiller, William G.: Univ. Penna. Med. Bull., January and February, 1905.

lateral and descending, has been recorded by Potts.[10] Both sides of the body were eventually involved, bulbar symptoms appearing and becoming prominent.

### DESCENDING TYPE OF UNILATERAL AMYOTROPHIC LATERAL SCLEROSIS.

Seven of the ten cases collected by Spiller were of descending type (Dejerine, Pick, Leyden, Lennmalm, 3 cases of Probst). Of these, five began with bulbar symptoms, the paralysis of the upper and lower extremities coming on in succession, or at least later. In a case reported by Dejerine, beginning with bulbar symptoms, the lower extremity of the side affected was more markedly paralyzed than the upper. In Pick's case paralysis began first in the left upper limb and extended to the lower of the same side; later the right side became affected. In Leyden's case bulbar symptoms were first; next weakness developed in the left upper limb and later in the left lower extremity. In Lennmalm's case bulbar symptoms were followed by loss of power in the extremities of the right side and later by paralysis in the left upper limb.

In one of the several cases reported by Probst bulbar symptoms began first, the right upper and lower extremities becoming involved. In another case reported by Probst, weakness began in the left upper and lower limbs and later in the right upper. In still another case of Probst's bulbar symptoms began first, followed by weakness in the left upper extremity and in a short time in the left lower extremity.

Recently, I had the opportunity of studying a case of unilateral amyotrophic lateral sclerosis of descending type which it may be worth while to record in this connection, owing to the fact which has just been shown that scarcely more than a dozen unilateral cases of this disease have as yet been put on record.

CASE 13.—A boy, aged about 14, was in good health until about three years before he was seen by me for his family physician, when he began to have slight tremor in the right hand. About eighteen months to two years later some weakness in the right leg was observed.

Examination showed no particular difference in the two sides of the head and face. Ocular movements were normal, as were also movements of the parts supplied by both the facial and trigeminal nerves. The right upper extremity showed distinct and nearly generalized atrophy, and some wasting was present in the right half of the trunk. The right thenar and hypothenar eminences were extremely wasted. The right lower extremity, like the upper, was also generally smaller than the left. Testing for special movements, weakness was found in all parts of the limb, but this was much more decided in the proximal than in the distal portions. The movements of the foot on the leg and the movements of the toes were greatly impaired. Every possible movement of the foot and toes was tested, with the result just given. Farado-contractures were well preserved on both sides; on the right side was a quantitative increase, the muscles generally responding to a current of less current strength on the right than on the left side. A moderate current produced widespread contractures in the general musculature of the arm, probably partial degeneration reaction.

On attempting movements of the right or atrophied arm the patient had associated movements of the left. No matter what movement was attempted with the right upper extremity, the left upper extremity responded, sometimes in regular and sometimes in a sort of forced athetoid movement of the hand and fingers. Voluntary movements of the right lower extremity did not cause movement in the left lower, but did cause some movement in the left upper extremity. These, however, were by no means as marked as when the voluntary effort was made with the upper right extremity. Both the deep and superficial reflexes were everywhere greatly exaggerated on the right side, the muscle and tendon jerks of both arm and leg being carefully examined. The right great toe remained permanently somewhat extended as in a case of Friedreich's ataxia. A marked Babinski reflex was present on this side, the already extended great toe extending still further on plantar stimulation. Ankle clonus was present on the right side. The wasting and loss of power were not present anywhere in the left half of the body. The reflexes, while prompt, were not exaggerated as on the other side, and irritation of the sole of the foot gave normal plantar flexion. A very slight hypesthesia was present in the right arm and trunk. The patient's mental condition was good. He had kept up with his class in a good preparatory school. He had neither continuous nor paroxysmal headache nor any other evidences of focal disease. The case seemed to be clearly one of unilateral amyotrophic lateral sclerosis beginning first in the upper extremity.

### UNILATERAL ASCENDING TYPE OF PARALYSIS AGITANS.

It is, of course, well known that paralysis agitans is often for a long time a unilateral affection; it is not so well understood that the unilateral form of this disease not infrequently is of ascending type, the disease passing from lower to upper extremity of the same side and later to the opposite lower and upper extremity. Patrick regarded one of the cases described by me in 1900 as an illustration of this affection rather than a case of primary degeneration of the pyramidal tracts, but of this I have not been convinced. With regard to this matter I need only reproduce here remarks made in a previous paper written in collaboration with Dr. William G. Spiller:[4]

> Among the reasons for believing that the case was not paralysis agitans were the absence of spontaneous tremor; the presence of markedly exaggerated reflexes on the affected side, even including ankle clonus and patellar clonus; the existence of decided wasting on one side, especially of the lower extremity; and the absence of the facies of paralysis agitans and of a fixed position of the body and head. According to Sir William Gowers[11] both primary lateral sclerosis and paralysis agitans are probably abiotrophies, and it may be that in the case under consideration the two abiotic diseases are conjoined.

Patrick[5] reports a case of unilateral paralysis agitans in his paper with the view of indicating the similarity of this case to that reported by me and reinvestigated by him. In this case the disease began in the upper extremity, passing later to the lower. My impression is that this is rather the usual course, although I have not made any collection of cases to demonstrate the point. Whether or not the case reported both by Patrick and myself was one of paralysis agitans or of paralysis agitans and pyramidal degeneration conjoint, it is certain that Parkinson's disease may remain for a considerable time unilateral, and beginning in the lower extremity may take an ascending course. Recently, I have seen two cases of this ascending type.

CASE 14.—A man, aged 55, a pattern maker, first began to notice stiffness or impairment in movement in his left leg in December, 1904. At first and for some time there was no involvement of the left upper extremity, but this gradually came on, and at the time when he was first seen, about 16 months after the beginning of the trouble in the leg, the arm was very markedly affected. He had occasional cramps in the legs, the toes at times contracting when these cramp-like feelings were present. He also had at times, especially after sitting, feelings of numbness or tingling in the left leg and arm.

Examination showed a rather fixed position of the head, slowness of gait with some dragging of the left foot, and a marked tremor in the left upper extremity, especially in the hand, this being the type usually seen in Parkinson's disease. Observed over short periods it was sometimes present and at

10. Potts, Charles S.: Univ. Penna. Med. Bull., July and August, 1905.

11. Gowers, Sir William: Lancet, April 12, 1902.

others absent, and it was a little increased by voluntary effort or attention. While both the leg and arm on the affected side showed a little stiffness and awkwardness in movement, real loss of power was slight. The patient still continued to work at his business, even using the left hand. He said that if he could get a good grip on an object with this hand he could go on using it in his work. Sensation was everywhere retained.

CASE 15.—A woman, aged 43, first observed weakness in the left lower extremity four years before coming under observation. Tremor did not appear for three years in the left lower extremity and shortly after this the upper extremity became involved, showing both weakness and tremor. Symptoms appeared in the lower extremity of the opposite side three and a half years after the beginning of the disease. The case was clearly one of paralysis agitans and need not be described at length.

It is not my intention to go with any elaboration into a discussion of the differential diagnosis of unilateral ascending and unilateral descending paralysis from focal lesions, cerebral or spinal, from cerebrospinal syphilis, and from peripheral or hysterical affections. For the sake of completeness, however, a few words may be said about these diagnoses. In a rare case a brain tumor may originate in the cortical leg area or beneath it and develop toward the arm and face regions so as to cause a progressive hemiplegia of the ascending type. The reverse might, of course, take place, and the tumor originating in or near the face or arm area and progressing toward the leg center, give a unilateral descending paralysis. In such a case some or all of the general symptoms of brain tumor would be likely to be present, and other focal signs of this affection, especially Jacksonian epilepsy, would sooner or later appear. A tumor of the internal capsule would most probably produce loss of power in both arm and leg nearly simultaneously. In some cases of arteriosclerosis necrotic areas form first in one and then in another portion of the brain, and it might happen that these would be so placed in succession in the motor region as to give unilateral ascending or unilateral descending paralysis. Such a case would develop clinically by steps rather than by regular progression, and other signs or symptoms indicating the character of the lesions could probably be detected if sought for diligently. A single tumor or necrotic lesion of the spinal cord would not cause a paralysis ascending from the leg to the arm, as the cerebrospinal tracts passing to the nerve nuclei for the upper extremity do not proceed lower than the upper thoracic region. Peculiarly situated and peculiarly progressing focal lesions of the cervical cord might simulate a unilateral descending paralysis, but the other well-known symptoms of such a unilateral focal lesion would be present and the subject hardly needs discussion.

The forms of spinal and cerebrospinal syphilis are protean. A spinal or intracranial gumma or gummatous meningitis or a succession of focal syphilitic lesions might give rise to a one-sided paralysis appearing first in the leg and afterward in the arm, and later taking the form of a triplegia. This is, indeed, what occurs in some cases of meningitis or meningomyelitis with a secondary degeneration of the pyramidal tracts. The new case of unilateral ascending paralysis (Case 9), had some of the features of a cerebrospinal syphilitic affection, although the patient denied venereal disease. Close attention to the history, and the presence of other evidences of syphilis and the variable and irregular manner in which the paralytic symptoms appear will assist in differentiating.

A paralysis of peripheral origin, of ascending or descending type, is rare, but, of course, may occur. Such a case would probably depend either on the degenerative neuritis or on the succession of peripheral lesions. The manner in which each stage of the paralysis appeared, the state of the reflexes, the results of electrical examination, and other well-known methods of determining the existence of a peripheral nerve disorder would serve to separate such a neural case from the forms of progressive hemiplegia under consideration. The absence of hysterical stigmata, as well as the slowly progressive manner of appearance of the paralysis of leg, arm and face would make a hysterical hemiplegia improbable. A pure neurasthenia never shows itself as a slowly developed and permanent hemiplegia.

### DISCUSSION.

DR. HERMAN H. HOPPE, Cincinnati, said he was very glad to hear Dr. Mills increase the latitude of the subject. He reported a case perhaps of this kind that he had had under his care for about a year or 18 months. A young child about 3 or 4 years of age developed spastic paralysis, which first appeared in the arm, and then descended to the leg and ascended to the face. The child was absolutely healthy up to the age of 2½ years; it developed, intellectually and otherwise, normally, walked normally and looked like a normal child; then it gradually developed paralysis, spastic in character, of the right arm, then spastic in character of the right leg, and then of the face, during a period of perhaps six or eight months. In other respects the child was perfectly well; there was no headache and the child ate and slept well. One peculiarity about the case was that there was absolutely no syphilis, and the mother gave birth to other children who are well. The mother was addicted to drink, which was particularly manifested before the child was born. Until Dr. Mills spoke of the descending type Dr. Hoppe was very much puzzled about this case. Whether there was any other feature about the case that would develop in the future he could not say. That particular manner of development of spastic paralysis in a child never occurred to him before. There was no history of any infectious disease of any kind which might have caused an encephalitis.

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## TECHNIC IN THE AFTER-CARE OF THE RADICAL MASTOID OPERATION.*

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To remove diseased tissue thoroughly from the temporal bone, in cases of chronic suppuration, is an easy task compared with the difficulty of obtaining a resultant cavity absolutely free from granulations or discharge, and lined with healthy new epidermis. To establish such a condition speedily is an end toward which we are all striving.

When the first radical operations were done in 1889, it was no uncommon thing to have suppuration continue within the cavity for many months; healing was finally obtained only at the expense of much time and suffering, and was usually attended with considerable deformity. To-day it is possible to have our exenterated cavity thoroughly healed in a comparatively short time, in many cases only five weeks, and with absolutely no postaural deformity, only a fine linear scar marking the line of incision.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

HISTORICAL REVIEW.

How has this remarkable advance in the care of our patients been accomplished? It is not by the adoption of any one step, but rather by taking advantage of a series of improvements, as they have suggested themselves, that we are able to achieve a cure in practically as short a time as is usually allowed for the recovery of the simple Schwartze operation.

In the earlier cases I saw, practically no attempt was made to close the posterior wound, and reliance was placed on plastic flaps turned into the cavity. By the use of this method, it was practically impossible to obtain a flap long enough to reach into the inner wall of the antrum, and much surface was necessarily left uncovered. Two places in particular almost always gave rise to considerable trouble in the way of granulation formation, namely, the facial ridge and the inner wall of the antrum. Granulations from all directions would encroach on this small cavity, and it was only by means of the most active treatment and continual packing that they were kept down at all. Even when new epidermis had formed, the organized granulations would have assumed such proportions that in many cases the antrum was practically obliterated.

Suturing the posterior wound completely and obtaining primary union here was a distinct advance in the treatment. This procedure was first advocated by Körner, to whom we are also indebted for the plastic operation on the meatus now so generally used. There were still many problems connected with the epidermization of the cavity.

As early as 1893 Thiersch grafts were being used by Stacke,[1] Urbantschitsch,[2] Jansen and others, in the effort to produce a lining of new skin in the cavity. There were obviously many difficulties attending placing these grafts in good position and retaining them *in situ* until they could become attached to the walls of the cavity. They were ordinarily placed on small spatulas, carefully floated from these into the selected place, and held in position by a small tampon of gauze, while the same procedure was employed with the next graft. In this way a large portion of the cavity was covered, but inevitably there would be granular areas between these small islands of epidermis, and the effort to keep these granulations down while the new covering was spreading throughout the cavity required the utmost vigilance and care on the part of the attendant and consumed many weeks.

The next important step in the rapid epidermization of the cavity was in the employment of larger grafts, first introduced by Ballance. His method was to reopen the posterior wound at the end of from 10 to 14 days, and to place the grafts on the newly formed granulations, retaining them in place with gold foil.

In 1899 Denker used a single large graft, applying it through the open posterior wound 2 to 4 weeks after the operation. He was the first to use the open air method of treating the wounds, no packing of any kind being employed. Practically all other operators have retained the graft against the walls of the cavity by means of some kind of packing. Many, however, have recognized the necessity for using some smooth, pliable material next the graft, to prevent it from adhering to the gauze, as evidenced by the gold foil used by Ballance, and the silk tissue of Reinhard.

1. Stacke: "Die operative Frulegung der Milhjohrräum," Tubingen, 1897.
2. Urbantschitsch: "Ohrenheilkunde," fourth ed., p. 496.

A little over a year ago the practice of using one large graft for the entire cavity was attempted at our institution. Simultaneously with this procedure, advantage was taken of the method of treating skin wounds without dressing, as employed in extensive burns of the surface. This was a radical departure from the procedure which up to this time had been followed practically exclusively.

The results in several of the first cases on which this method was employed were almost startling. Complete epidermization of the cavity was obtained in from 5 to 7 weeks.

But little change has been made in the routine during the past year, and repetition of the cases but adds cumulative testimony to the value of the method.

TECHNIC.

The procedure in detail, as now carried out in my practice, is as follows: After a thorough bone operation, in which great attention is paid to detail, all bone being carefully smoothed down, Eustachian tube cleared out, and Körner flap turned into the mastoid, the whole cavity is packed with short pieces of iodoform tape, the pieces being perhaps one-half inch square. The posterior wound is sutured tightly, and in most cases heals by primary union.

Except to change the outer gauze, this dressing is not tampered with until one week from the day of the operation, when the patient is again etherized, the entire packing removed from the wound, all bleeding stopped, and any clotted blood removed. It is of the utmost importance that all foreign substance, particularly pieces of the gauze packing, be removed from the cavity, otherwise failure of the graft to adhere must necessarily result. While the operator is doing this, his assistant is removing the graft from the thigh, which has been prepared previously. An ordinary amputating knife, freshly sharpened, and sterilized by dipping for one or two minutes only in 70 per cent. alcohol, is the only instrument needed. So delicate is the cutting edge necessary to obtain a proper result that boiling the knife will ruin it, and it is also practically impossible to employ the same knife twice without sharpening.

It is often possible to secure a graft 2x3 inches. After being separated from the thigh, the skin is spread out without being removed from the place from which it was cut, and a piece of peau de soie placed on it. This gauzy tissue, with the skin adherent to it, is now carefully removed from the thigh. The peau de soie is used to keep the skin from curling up, and also to serve as a protective medium between the graft and the gauze plug on which it is inserted into the ear. This plug is prepared by taking several layers of gauze and winding it into a cone, the apex of which will just fit into the middle ear and antrum, the remaining portion being loosely rolled so that it can be readily adapted to the shape of the cavity. The skin graft is now placed on the end of this gauze plug. The graft must be very thin, of sufficient area to completely cover the surface of the exenterated cavity, and carefully inserted into position, precaution being taken that the apex reaches the middle ear. The remainder of the plug is then expanded after entering the meatus, so that the graft shall everywhere come in contact with the granulating area. This completes the operation of the skin graft. The sutures in the posterior wound are usually removed at this time.

An external dressing is applied over the ear, and the head again bandaged. On the third day following the

graft, and the tenth from the original operation, all dressings are removed, and from that time on no packings of any kind are employed. When the gauze plug is removed the peau de soie almost always comes with it, leaving a perfectly clean cavity inside the temporal bone, in which can be seen the newly applied graft.

It has been my custom to do as little as possible to this cavity for several days following the removal of the plug. Within the first 24 hours after the ear is left exposed there will be more or less purulent discharge from the sloughing of the redundant folds of the graft. In a few days long strings of this sloughing material may be wiped out with the cotton stick. Often by the end of two weeks of this open treatment a firm layer of new skin will be visible nearly if not quite all over the cavity, and suppuration will have ceased. Usually the only granulations with which we have to deal are when the graft was not large enough to line the cavity to the outer part; there will be a ring of exuberant tissue around the meatus, and particularly at that part where the Körner flap was made. This new tissue is easily kept down by use of a curette and caustics, however, and in the cases in which the graft is large enough to cover all denuded area inside the cavity does not bother at all. The part which always gave most trouble with other systems of grafting, namely, the antrum, is always epidermatized from the start, as the portion on the apex of the plug must completely cover this part.

### CAUSES OF FAILURE.

In some cases there has been a signal failure of the graft to adhere generally to the walls of the cavity, and recovery has been necessarily much delayed. From a careful analysis of these cases it seems to me that failure has been due in all cases to some departure from the routine procedure here laid down.

1. The first essential is a perfectly smooth cavity, free from any projecting edges or carious areas. It is asking the impossible to expect any graft to take well on a surface to which it cannot be applied evenly.

2. The next requisite is a large graft and a thin one. No matter how expert the operator he cannot cut a satisfactory graft with a dull knife, and a thick dermis will not only roll so as to bother in the application, but it may not take at all.

3. Careful preparation of the cavity immediately before the insertion of the graft. There is a tendency toward bleeding on the removal of the packing put in at the time of the original operation. This must be carefully checked, and all clots removed before applying the graft.

4. The graft must be kept warm and moist, but little time should elapse between its cutting and the placing in position, and extreme care be taken that it touches the cavity in all its parts.[3]

### DISCUSSION.

DR. J. C. BLAKE, Boston, said that, having followed Dr. Hammond at the Eye and Ear Infirmary, he knew that a part of the credit which Dr. Hammond attaches to the method employed should be credited distinctly to Dr. Hammond's own powers of differentiation and to his ability to adapt the handling of this method of treatment to the needs of the individual case. Certainty of arriving more speedily at the desired result is most encouraging, as presented by Dr. Hammond in giving the result of his experience. It requires care not only in the preliminary operation but in the complete clearing of the cavity, a necessity in all mastoid and antrotympanic work and, in addition, an appreciation of the condition of the tissues to be grafted. The application of the graft, also, is a matter which requires considerable care. Dr. Hammond makes a single graft application and then leaves the case untouched for some time. That means that the application of the graft must be most thoroughly and carefully done, and the work is one which requires dexterity. It is a most promising departure in the direction of rapid healing.

DR. E. A. CROCKETT, Boston, said it has been his custom for two years to use a single large graft, as Dr. Hammond describes, but applied at the time of operation. The method has been successful, both when the dura was exposed during operation and when it was not exposed, but he is a little afraid to use it now when there is exposed dura. The method offers one less dressing to the patient and a few days' quicker healing when the graft takes. If it does not take, regrafting can be done on the seventh to the tenth day, as if primary grafting had not been attempted. This, he thought, has been the custom in German clinics for some years. With the single graft at time of operation another advantage is that the careful preparation of the graft does not seem so essential as when the graft is applied over a granulating surface. Certainly a graft of decidedly greater thickness than Dr. Hammond uses has had perfect staying power in a number of cases Dr. Crockett has observed.

DR. J. F. BARNHILL, Indianapolis, said many operators seem to think that if they have done a thoroughly careful mastoid operation they have completed most of their work, whereas it has always seemed to him that the work has just begun when the extirpation of the bone is completed. The success of mastoid operations depends very largely on that minute care in after-treatment which Dr. Hammond emphasized. As Dr. Hammond said, every portion of the graft must be applied to absolutely smooth surfaces. It is in this lack of thoroughly smoothing the field that many get into trouble in so far as the "taking" of the graft is concerned. It is always a question in smoothing down those parts which surround and lie in immediate proximity to such structures as the facial nerve and dura mater that operators are likely to meet with their greatest difficulty in preparing the bony surface properly without running the risk of injury to these important structures. Dr. Barnhill considers it much wiser to run some risk of failure to cure the patient than to persist in measures directed toward smoothing every part in the vicinity of the nerve, and thereby greatly endangering the functions of the facial, for if the patient were given choice in the matter he would always choose a running ear rather than a paralyzed face. It requires a great deal of experience and discrimination in operating on the bone, and a great deal of care to know just how far the operator is to go in his efforts, not only to remove every portion of the diseased bone, but also to leave the parts smooth enough to be quickly covered by granulations or to receive a graft if one is applied. If he goes just far enough, if his experience has been great enough so that he gets the field smooth and free from disease without entering the facial canal, then he has made an ideal preparation for the skin graft. Contrary to what Dr. Hammond advises Dr. Barnhill has for a long time preferred the Panse flap to the Körner for the reason that it gives a broader opening through which to conduct the after-treatment. But if one uses the Panse flap he must not stitch these flaps as Panse advises. The original advice was to leave the postauricular wound open, and to stitch the flaps to the external skin. It is clear that if this were done, closing the wound posteriorly as Dr. Barnhill invariably does, there would be skin in approximation with new-cut osseous surface, thereby inviting a fistula, which is to be avoided. He, therefore, stitches these flaps to the periosteum, not in any definite position but in that one which it is clear is the proper one at the time of operation; and in such position that when the postauricular wound is brought together the flaps will lie deeply in the cavity and in direct contact with the bone. After the employment of this method he has been able to inspect the wound entirely to his satisfaction. It makes a little larger external meatus, but he can always see the entire healing surface during the healing proc-

3. The following additional literature may be consulted: Siebenmann: Berlin. klin. Wochschr., 1893, p. 43; Körner: Arch. Otol., xxxvii, p. 130; ibid., xxi, p. 256; ibid., xxxv, s., 145; ibid., xxxv, p. 144; ibid., xlv, p. 186; Politzer: "Ohrenheilkunde," fourth ed., p. 464; Verhandlungen der Deutsch. otol. G. Gesellschaft., 1903; Hays: Encyklopedia.

ess, and can therefore give more rational after-attention than is possible when other flaps have been selected at the operation.

DR. A. E. PRINCE, Springfield, Ill., said that in securing such a graft as Dr. Hammond mentioned the difficulty will be experienced of securing a graft of uniform thickness. Drawing the knife back and forth often produces a serrated graft. This difficulty may be overcome by taking a piece of sterilized board, say from an ordinary cigar box. Follow the edge of the board with a knife. The board will keep the skin perfectly straight and tense, and in that way any length of graft desired may be obtained. Dr. Prince has found that particularly useful in attempting grafts for the restoration of the orbit. It may be from faulty technic in the operation but it has been Dr. Prince's misfortune from time to time to have a little necrotic area follow.

DR. CULLEN F. WELTY, San Francisco, believes there is no one method that covers all points in different cases. For this reason he uses different flaps in selected cases. He tries to close every case if possible and in those he can not close because of pathologic lesions, he uses the Panse flap. He thought it would be hard to adapt such a large skin graft to the cavity of the ear after operation. It would be much easier to adapt smaller pieces to the various recesses and corners that are naturally encountered, than to cover the entire cavity with a single graft. He does not think skin grafts should be used in cholesteatoma because the cholesteatoma dips into the individual caniculi of the bone and continues to grow. He would like to hear from Dr. Hammond about skin grafting over the stapes, whether it is not likely to diminish the hearing much more than by the ordinary process.

DR. KASPAR PISCHEL, San Francisco, showed a flap he has used for the last few years, and demonstrated his method as published in the *Archives of Otology*, xxx, No. 2, 1901. His method assures a well nourished covering of the bone trough, while skin grafts alone furnish poorly nourished tegument.

DR. PHILIP HAMMOND, Boston, said he expected there would be more opposition to the use of ether a second time during the operation; that is, doing the operation in two stages. He has pronounced views on the subject, however, or he would not subject the patient to this extra inconvenience. The cavity on which this operation is done of course contains more or less pus, granulation tissue and sometimes cholesteatoma. It is difficult to get the cavity clean and aseptic. The skin graft applied primarily to such a cavity is not as apt to take, in a large number of cases, as after there is good healthy granulation tissue. He packs the cavity with iodoform gauze and then does not touch it for 7 days. On the seventh day when taken out the gauze is as clean as when introduced. That gives a good clean healthy tissue on which to introduce the grafts. The question of the flap to be employed, whether the Körner or the Panse, of course varies according to the conditions. In some cases he has thought it necessary to use the Panse flap, but when he selected his case he prefers the Körner. It can be made as broad as the canal will permit. When thoroughly applied the flap helps to pin down the posterior wound that is sewed together and makes one solid mass.

As to facial paralysis, it requires considerable experience and some knowledge of anatomy to do this operation thoroughly and save the patient from paralysis. In something over 50 radical operations it has been his misfortune to encounter facial paralysis twice. In the first case there was a fistula leading from the mastoid cavity into the facial ridge. He wanted to get at the caries, and succeeded in removing it, but the patient suffered a facial paralysis. That was 2 years ago. To-day the paralysis has disappeared. The other case was that of a young girl, last year. On getting into the antrum there was distinct caries and much granulation tissue all around the facial nerve, which could be seen plainly in the diseased tissue. He left that as it was, but there was paralysis.

As to the use of a board in making a graft, Dr. Hammond referred to the excellent work done by his assistant, Dr. Tobey, in getting these grafts for all his private cases and most of his hospital cases. Dr. Tobey finds that he can get a decent graft by drawing the skin taut with the hand. In that way there is little difficulty in securing a good graft. As to the question of hearing when the skin is laid over the stapes, Dr. Hammond has one patient in whom the hearing power remains at 20/35. In a still more recent case, the hearing increased from 1/35 to 10/35. As a rule there is a slight improvement in hearing following the operation. Regarding the ability to see into the mastoid cavity with the closed posterior wound, it depends entirely on how much of the mastoid is taken out and how much facial ridge is left. If the bone is removed close to the facial nerve there will be no difficulty in looking into all the parts, mastoid, antrum and middle ear.

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## ANASTOMOSIS OF BLOOD VESSELS BY THE PATCHING METHOD AND TRANSPLANTATION OF THE KIDNEY.*

ALEXIS CARREL, M.D., AND C. C. GUTHRIE, M.D.
CHICAGO.

### DEFINITIONS.

The patching consists of closing an opening in the wall of a vessel by fitting and sewing to its edges a flap taken from another vessel or from some other structure such as the peritoneum.[1] For example, a portion of the wall of a carotid artery may be removed and the opening thus produced closed by a patch taken from the external jugular vein.

The anastomosis by the patching method consists of extirpating a vessel together with an area or patch from the vessel of origin, the patch being so cut that the mouth of the extirpated vessel is situated in the center of the patch. The edges of the patch are then fixed to the edges of a suitable opening made in the wall of another vessel. For example, a spermatic artery of a dog was dissected and removed with a triangular patch of the wall of the aorta surrounding its mouth. The edges of this patch were then sutured to the edges of a suitable opening made in one of the femoral arteries. The spermatic artery was thus anastomosed to the wall of the femoral artery (Fig. 1).

### AIM.

We have attempted to develop a method of anastomosing blood vessels so that even in case of slightly imperfect technic resulting in the deposition of fibrin on the lines of suture, the circulation would not be disturbed.

In methods hitherto employed, a fault of technic was sufficient to cause hindrance or even stoppage of the circulation. In the simple transplantation of the kidney, for instance, the wall of the renal vessels is cut and sutured. Then it happens that, in case of infection, or fault of technic, fibrin deposits itself on the line of suture and occludes the lumen of the vessel, that gangrene or atrophy of the organ are very liable to result.

In the anastomosis by the patching method the wall of the renal vessels is respected. Instead of cutting the vessels themselves, we extirpate a patch of the aorta and vena cava, in the center of which is located the mouth of the vessel. The edges of the flap are sutured to the edges of the aortic opening. If infection occurs, a clot can be produced on the line of suture. But this suture is located far from the mouth of the renal artery. Thus, the circulation of the renal artery is not troubled. As regards the aorta, a small clot adherent to its wall does not disturb its circulation. Occurrence of gangrene in the transplanted organs is then almost impossible.

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* From the Hull Physiological Laboratory, University, Chicago.

1. Carrell and Guthrie: "Resultats du patching des arteres." Comptes rendus de la Societe de biologie de Paris, June 22, 1906.

TECHNIC.

The operation may be divided into two stages: 1. Preparation of the vessel to be transplanted and, 2, transplantation on the second vessel. For example, the anastomosis of the renal artery to the aorta in the transplantation of the kidney will be described.

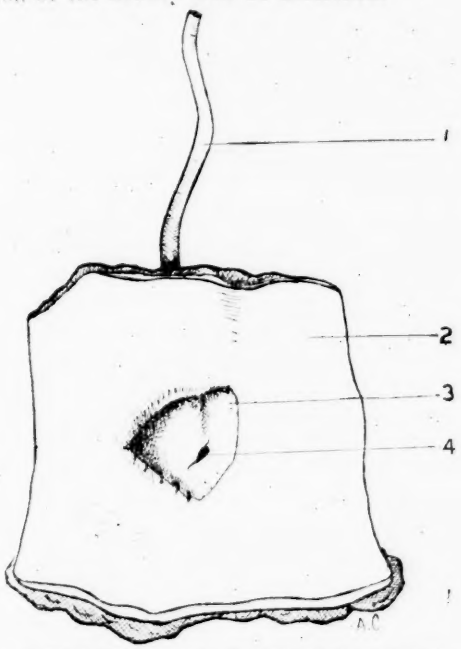


Fig. 1.—1, Spermatic artery; 2, wall of the femoral artery; 3, aortic patch; 4, mouth of the spermatic artery.

*1. Preparation of the Renal Artery and Aortic Patch.*—The aorta of the first animal is dissected to the level of the mouth of the renal artery. The renal artery, however, is not dissected. A patch of the aorta (Fig. 2) surrounding the mouth of the renal artery is cut with scissors. The patch should be triangular or elliptic in shape and the edges as regular as possible in order that a smooth anastomosis can be made.

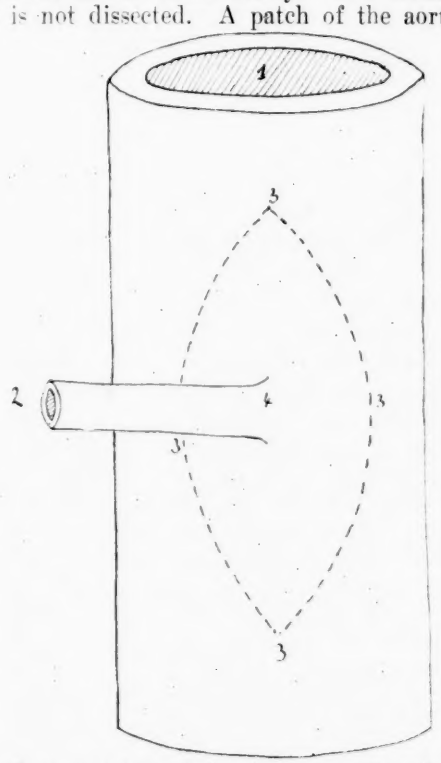


Fig. 2.—1, Aorta of the first animal; 2, renal artery; 3, line of incision for the aortic patch; 4, mouth of the renal artery.

*2. Transplantation of the Patch on the Wall of the Aorta of the Second Animal.*—The aorta of the second animal is dissected between the mouths of the renal and genital arteries. The vessel being temporarily occluded both above and below, with one cut of the scissors an elliptic opening a little longer than the patch taken from the first animal is made in the wall of the aorta.

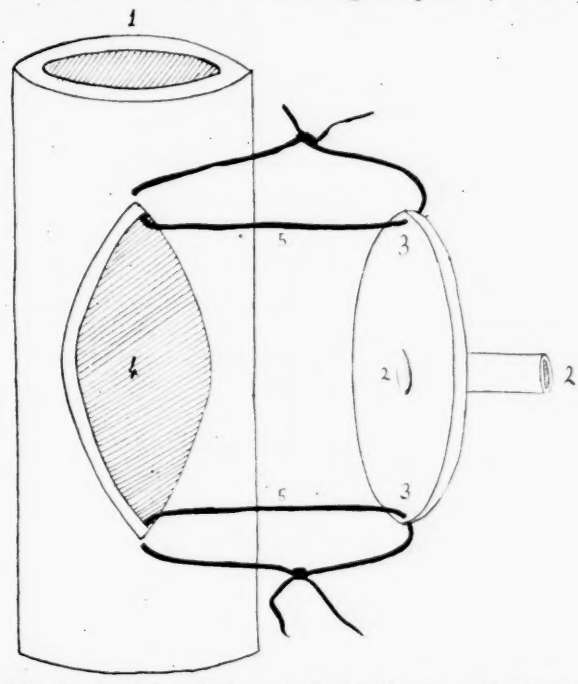


Fig. 3.—1, Aorta of the second animal; 2, renal artery; 2', mouth of the renal artery; 3, patch taken from the aorta of the first animal; 4, aortic opening; 5, threads uniting the ends of the patch and of the aortic opening.

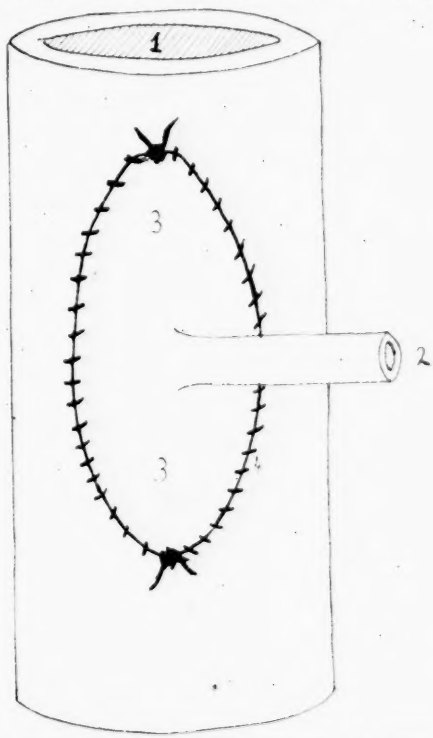


Fig. 4.—1, Aorta of the second animal; 2, renal artery; 3, patch of the aorta of the first animal; 4, continuous suture.

Each end of the patch is then fixed to the ends of the aortic opening by a single stitch (Fig 3). The edges of the patch and of the aortic opening are then united by a continuous suture (Fig. 4).

Anastomosis of the renal vein to the vena cava is performed in the same manner.

The circulation is re-established by releasing the vessels where they were temporarily occluded. The blood penetrates immediately through the renal artery into the capillaries of the organ and returns through the renal vein to the vena cava.

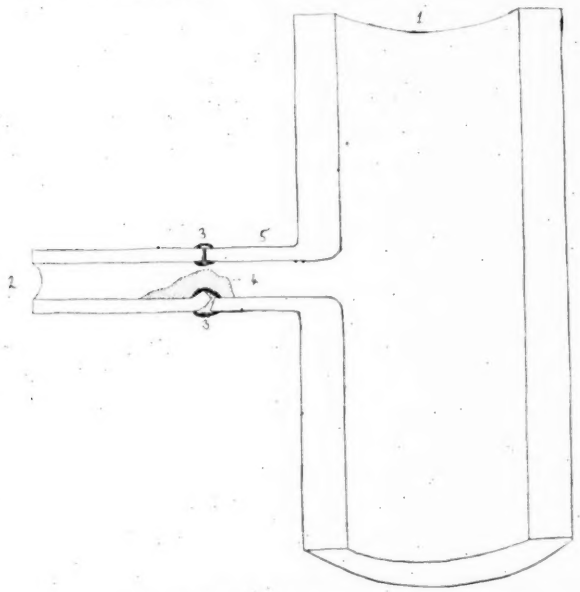


Fig. 5.—1, Aorta of the second animal; 2, renal artery of the first animal; 3, line of suture of the end-to-end anastomosis; 4, clot on a point of the line of suture, with almost complete obliteration of the vessel; 5, renal artery of the second animal.

At the line of suture of the aorta a little blood may escape. This hemorrhage ordinarily stops of itself within one or two minutes, but if it continues it is easily controlled by one or two supplementary stitches. The operation is less difficult on the veins owing to their

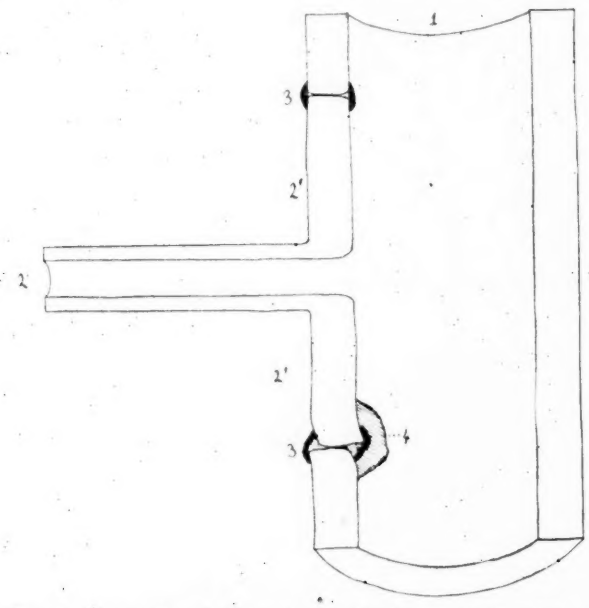


Fig. 6.—1, Aorta of the second animal; 2, renal artery and aortic patch taken from the first animal; 3, line of suture of the aortic patch to the edges of the aortic opening; 4, clot on the line of suturing.

greater flexibility. For this reason the line of suturing on the vena cava is usually blood proof.

The same method is well adapted to the anastomosis of the ovarian, spermatic and other vessels.

RESULTS.

This method has been employed on cats and dogs in fourteen cases of transplantation of the kidney, in one case of transplantation of the ovary, in several experiments of simple patching (i. e., repairing openings in walls of arteries by flaps of vein or peritoneum) and in some experiments in which the animals were killed at the end of a few hours, such as the transplanting the head of an animal in the abdominal region of another animal.

Although infection often occurred, the circulation in the organs has nearly always been good, and in no case gangrene of the transplanted organ (kidney or ovary) has been observed.

(*a*) *Anatomic Results.*—Within a few days after the operation, the stitches placed in making the anastomoses became covered with a glistening substance similar in appearance to the normal endothelium. In some cases there was a very small ribbon-like deposit of fibrin around the line of anastomosis. Irregularly shaped clots sometimes occurred at points of defective union of the intimas. In a dog that died eight days after the operation from diffuse phlegmon of the abdominal wall, a clot was found tightly adherent to one of the ends of

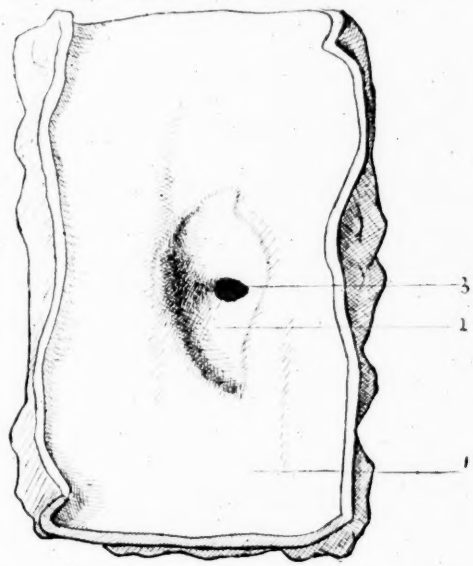


Fig. 7.—1, Wall of the aorta; 2, aortic patch; 3, mouth of the renal artery.

the patch. But the surface of the patch was smooth and the mouth of the renal artery was entirely unobstructed and normal in appearance. If such infection had occurred in a termino-terminal (Fig. 5) or termino-lateral anastomosis, obliteration of the vessel would probably have occurred. By the patching method, however, this accident had practically no effect on the circulation either in the aorta or in the renal artery (Fig. 6).

Anatomic union of the wall and the patch may occur rapidly after the operation. For example, fifteen days after transplanting the ovary of a pregnant cat into a small male kitten, it was practically impossible to distinguish the line of union of the patch of vena cava of the former to the wall of the vena cava of the latter. Also the union of the arterial anastomosis was excellent, the endothelium being smooth and glistening, but it was possible to distinguish the outline of the transplanted aortic patch. In some other cases small deposits of fibrin were observed on the line of the suture. They were very thin and, of course, did not interfere at all with the circulation. Specimens taken eight days, ten days,

eighteen days, twenty-seven days, forty-three days (Fig. 7) after the operation, and one taken five months after, show that the results remain excellent for these periods.

(*b*) *Physiologic Results.*—As soon as the blood is allowed to flow through the aorta, the circulation of the renal artery is re-established and appears to be practically normal. The renal vessels are surrounded by their connective tissue and protected by the peritoneum. Their caliber and their appearance are not modified. The kidney is a little redder, harder and enlarged.

Such animals walk, climb, jump and, in fact, comport themselves in a manner very like the normal the day following the operation and even, in some cases, within a few hours after the operation.

A cat into which a kidney had been transplanted was anesthetized eight days after the operation and its abdominal cavity opened by a transverse incision a little above the renal vessels. The transplanted kidney was found covered by glistening peritoneum without intestinal adherences. The color of the kidney was a little redder, but practically normal; the organ was slightly increased in size. The circulation was excellent and even greater than before the operation. The only evidence of the operation was a bulging of the aorta and the vena cava at the point of anastomosis of the renal vessels. The excellence of the physiologic result was presumably in a large measure due to the insignificant alteration of the condition of the renal vessels and the ureter from the normal.

A female cat,[2] to which a kidney from another cat was transplanted four months ago, is now living in good health. The transplanted kidney is enlarged. Its consistency is a little harder and its form is normal. By palpation the pulsations of the renal artery are easily detected and appear to be normal.

These observations show that the results of the anastomoses by the patching method remain good for a long period.

### CONCLUSIONS.

1. By the patching method, the termino-lateral anastomosis of blood vessels is more safely performed than by the other methods.

2. It prevents the occurrence of gangrene after the transplantation of organs even in case of slight infection.

3. The circulation of a kidney, transplanted with anastomosis of its vessels by the patching method, is excellent four months after the operation.

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## *Clinical Notes*

## ACETOZONE IN TYPHOID FEVER.*

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For a number of years acetozone has been vigorously pushed in the treatment of typhoid fever, the manufacturers making the following claims:

1. A greater freedom from intestinal disturbances such as characteristic odor of stool, diarrhea, tympanites, hemorrhage, perforation, peritonitis.
2. A diminution of the toxemia, and the consequent improvement in physical and mental condition.
3. The return to normal temperature more quickly.
4. A modification of the course, severity, and type.
5. Complications less frequent.
6. Relapses less frequent.
7. Recovery more prompt and certain.

We will see how far these claims are substantiated in a short series of 10 cases in which records have been kept; bearing in mind that the series is too short to indicate very much either way. All the patients in the series were treated by hydrotherapy with a milk diet. The acetozone solution contained from 15 to 20 grains to the quart, and was administered freely according to directions.

#### FIRST CLAIM.—FREEDOM FROM INTESTINAL SYMPTOMS.

Findings:
One only had diarrhea.
Nine had constipation.
Odor of stool was modified in all cases.
Tympanites was troublesome in but 2 cases.
Hemorrhage was present in 2 cases.

#### SECOND CLAIM.—TOXEMIA DIMINISHED WITH IMPROVED PHYSICAL AND MENTAL CONDITION.

| Findings: | Slight. | Moderate. | Severe. |
|---|---|---|---|
| Mental Impairment ..... | 4 | 1 | 5 |
| Physical Impairment ..... | 3 | 2 | 5 |

These conditions seemed to go hand in hand. The subjects taking the most nourishment were most free from both conditions, hence suggesting free feeding to overcome mental condition.

#### THIRD CLAIM.—QUICKER RETURN TO NORMAL.

The fever was not considered absent until evening temperature was normal.

Findings:
Minimum number of febrile days..... 18
Maximum number of febrile days.....109
Average number of febrile days..... 43

By omitting 2 cases with relapse the average is brought down to 31 days.

#### FOURTH CLAIM.—COURSE, SEVERITY AND TYPE MODIFIED.

Findings:
Average evening temperature first week.....102.6
Average evening temperature second week.....102.4
Average evening temperature third week.....101.4

It should be noted that when temperature was 102 cold baths were administered every 3 hours.

#### FIFTH CLAIM.—COMPLICATIONS LESS FREQUENT.

Findings:
Two had pneumonia.
Two had hemorrhage.
Six had no complications.

#### SIXTH CLAIM.—RELAPSES LESS FREQUENT.

Findings:
One had 3 relapses, each of which took a typical course.
Practically 4 relapses.

#### SEVENTH CLAIM.—RECOVERY MORE RAPID AND CERTAIN.

Findings:
Rapid recovery, 6.
Prolonged convalescence, 2.
Deaths, 2; pneumonia, 1; hemorrhage, 1.

#### SUMMARY.

Claim 1: Greater freedom from abdominal symptoms; claim justified.

Claim 2: Toxemia decreased; claim not justified.

Claim 3: Quicker return to normal temperature; claim not justified.

Claim 4: Course, severity and type modified; claim not justified.

Claim 5: Complications less frequent; claim not justified.

Claim 6: Relapses less frequent; claim not justified.

Claim 7: Recovery more rapid and certain; claim not justified.

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2. This animal was presented before the Section of Physiology of the meeting of the British Medical Association, Toronto, August, 1906.

* Read at meeting of Southwestern Minnesota Medical Society, Luverne, Minn., July 12, 1906.

This brings us to the real value of the drug; it prevents intestinal fermentation with the consequent tympany and diarrhea, and, in my opinion, this in a measure increases the patient's comfort and chances of recovery, but it has little value above other intestinal antiseptics.

The question arises, however, whether we are not depending too much on remedies having a local action for a general condition. We were overdoing it in the case of antipyretics. Some one said: "The only advantage of an antipyretic is to let the patient die with a normal temperature." Are we not overdoing intestinal antisepsis? Are we not simply attempting to let the patient die with a sterile intestine?

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## NEW APPARATUS: (1) AN ASEPTIC PROTECTIVE SHEET FOR MASTOID SURGERY, AND (2) A PRACTICAL ALGESIMETER.*

H. O. REIK, M. D.

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BALTIMORE.

### I. ASEPTIC PROTECTIVE SHEET FOR MASTOID SURGERY.

One of the important problems confronting the aural surgeon is the maintenance of strict asepsis of the mastoid wound without unduly disfiguring the patient, even temporarily, by extensive removal of hair. The practice of different operators, as regards the preparation of the field for a mastoid operation, varies from removal of only a small amount of hair immediately surrounding the area to be opened, to a close shaving of the entire head. I have never felt justified in exposing an extensive area of the scalp, except in a premeditated brain investigation, and yet, in my efforts to save the patient from unnecessary loss of hair, I have frequently been sorely troubled by hairs encroaching on the wound at a critical stage of the operation.

In preparing for a simple mastoidectomy it has been my custom to have the scalp shaved for a distance of, approximately, 3 cm. and 6 cm. posterior to the auricle, then to make a skin incision parallel to the postauricular sulcus and about 5 mm. therefrom throughout its curvilinear course. The scar following a wound so situated is well hidden by the auricle and causes the least disfigurement. My best efforts, however, to protect such an operation field, by the use of sterilized rubber caps or by the application of sterile towels wound about the head, have not been productive of satisfactory results. The most carefully applied headgear is apt to become loosened by manipulation attending the operation and to permit straggling hairs to wander into the field; particularly is this true when dealing with female patients in whom the mass of hair makes it more difficult to apply the towels tightly and the longer hairs are especially prone to creep from under cover. In order to obviate these difficulties I have had a special rubber sheet made that can be neatly applied and that will surely prevent any possibility of hair encroaching on the field even though the shaved region be a very narrow one.

About three years ago my attention was attracted by an illustration, in the business catalog of the B. F. Goodrich Co., depicting a rubber operating sheet devised by Dr. Murphy of Chicago, for use in abdominal operations. This sheet consisted of a heavy rubber apron of sufficient size to cover the entire abdomen, and in its center was inserted a small square of thin rubber tissue. The skin surface having been cleansed in the usual way preparatory to operating, the sheet was to be laid over the abdomen so that the square of thin rubber tissue came over the area to be incised and this portion was made to adhere to the skin by the application of a solution of Para rubber in chloroform. The incision was then to be made directly through the thin rubber, as through an additional layer of skin. The entire sheet could be boiled with the instruments and its adjustment rendered it impossible for any extraneous matter to enter the wound except through the direct channel. It occurred to me at once that if such a device could be employed in mastoid surgery it would very much simplify the problem of operating without much loss of hair and greatly aid the surgeon's efforts to maintain asepsis throughout his work. In order to accomplish this I have experimented with sheets of different sizes during the past two years and I offer this pattern for consideration.

*Description of Sheet and Method of Use.*—It consists of a heavy rubber sheet 30x30 cm. with a thin rubber insert 7x7 cm. The latter is not placed directly in the center, but toward one corner of the sheet in order to bring the greater portion to lie above and behind the operation field, where it is most needed. The anterior edge of the thin rubber section is only partially attached to the sheet and a semilunar piece has been cut away so that the auricle can be drawn through the opening and the edge of the rubber will fit in close to the postauricular sulcus.

The mastoid region having been prepared in the usual manner for operation, a coating of Para rubber solution is applied to the skin and the protective sheet laid on and smoothed down in the proper position; it will adhere to the skin very quickly, very much as a collodion dressing does and no further fastening of the sheet is necessary, though there can be no harm in binding the loose portion of the sheet in place by sterile towels. The entire sheet can be sterilized by boiling and it may be used repeatedly but, of course, the thin insert will have to be removed and a new one attached for each case. As both sides are the same, this sheet can be used for operation on either mastoid by simply reversing it. In practical use it has given me a great deal of satisfaction but if any one can suggest any improvements to be made on it I shall be very glad to adopt them.

### II. A PRACTICAL ALGESIMETER.

Some accurate means of estimating the degree of tenderness accompanying inflammations of the mastoid bone is very desirable. No other symptom of mastoiditis is so constant and none compares with it in value when considering whether or not a given case requires operative intervention. Acknowledging its importance, we have all been relying on the most primitive means of ascertaining its presence and intensity. Furthermore, we have been describing our examinations in the most inexact language as, for instance, when stating that "the mastoid was tender on slight pressure," or, "deep pressure produces exquisite tenderness," etc., such statements not conveying an intelligent idea of the exact amount of pressure exerted or the degree of tenderness elicited. What one examiner would call slight pressure might be regarded by another as firm or even deep pressure.

Hoping that such discrepancies might be prevented by the use of an instrument that will register the amount

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

of force required to elicit the first sign of discomfort, empower the watcher to note the effect of increasing pressure, and permit the study of smaller points on the surface of the bone than can be palpated by the finger alone and, in addition, that some standard might be established for recording the results of examinations made, the accompanying instrument was devised.

*Description of Instrument.*—It consists of a modification of the combined piezometer and algesimeter described by Dr. Howard A. Kelly.[1] It is a fenestrated hollow cylinder in which a slender piston rod moves against a resistance coil. The outer end of the rod is capped by a smooth, spherical button and the inner end is attached to an indicator that slides in the fenestrum. The margin of the slit in the cylinder is marked to show the amount of pressure exerted on the piston, being graduated in hundreds from zero to 2 kilograms.

With such a device it is possible to determine accurately, and to express in grams, the amount of pressure required to elicit tenderness at any particular spot. If pressure be made with this instrument over the mastoid antrum or tip of a normal person the full amount of power it registers, 2,000 grams, will be borne without material discomfort. In no case of mastoid inflammation in which it has been used, however, could such pressure be endured and, as far as can be said at present, the more advanced the mastoid disease the lower degree of pressure required to bring forth complaint of pain.

### DISCUSSION.

DR. W. SOHIER BRYANT, New York City, said that while he had used Dr. Reik's device with considerable satisfaction, he had found the greatest difficulty, not in keeping the hair out of the wound at the time of operation, but afterward during the dressings. He asked how Dr. Reik manages to do that.

DR. PHILIP HAMMOND, Boston, asked what Dr. Reik does in case it is necessary to make a posterior incision as recommended by Whiting. It often happens that after a patient is on the operating table the necessity for a more extensive posterior opening may arise. Very likely the incision will invade the hair area unless the patient has been previously shaved. At the Eye and Ear Infirmary it is the custom to shave the patient an inch and a half or two inches from the ear; to fasten long hair away from the auricle by collodion and perhaps by braiding the hair. When the patient is on the table several layers of gauze with an oval hole cut through are placed over the auricle, leaving only the operative field exposed. Various protective sheets are used, and, something that has not been described, a tent is placed about the face of the patient in such a way that the etherizer has free access to the face without being in the operative field.

DR. H. O. REIK, Baltimore, said that he disclaimed any credit for the sheet as an invention. It is simply a modification of Murphy's rubber sheet. In the original rubber dam Murphy used the rubber tissue simply fastened down to the skin. There is no interference with the vascular condition. As regards comparison with the collodion application, the advantage is it is so much more easily removed. At the close of the operation you can tear off the entire sheet, and if any portion adheres it can be removed with chlorform. He had heard from other sources the same objection to collodion that Dr. Sprague mentioned. Replying to Dr. Hammond, he said he does not use the Whiting posterior incision. He did not know whether operations differ in Baltimore from New York and Boston, but he had very rarely found it necessary to make an incision such as Whiting has spoken of. The sheet is not recommended for universal use, but for the average simple mastoidectomy in which the brain or neck is not entered and the operation is not extended, as in ligating the jugular when not anticipated prior to operation.

1. Johns Hopkins Hospital Bulletin, September, 1904.

## ETHER-AIR ANESTHESIA OR THE DROP METHOD FOR THE ADMINISTRATION OF ETHER.

### FROM AN EXPERIENCE OF SIX HUNDRED AND FIFTY CASES.*

MYRON METZENBAUM, B.S., M.D.
Staff Anesthetist to the Mount Sinai Hospital.
CLEVELAND, OHIO.

In the United States ether is generally the anesthetic of election, and in this country, at least, its administration is conceded to be attended with less danger than that of chloroform. The universal method for the administration of ether is by means of the Allis or similar cone, and a universal principle governing its administration is that it should be given with the least possible amount of air.

From the manner in which ether is generally administered by the cone, except when given by a skilled anesthetist, there is produced, besides the anesthetic effect, one of partial asphyxiation.

To exclude all fresh air by using a closed cone and wrapping a towel around the chin and the cone, to prevent the escape of the inhaled vapors and to force the re-inhalation of these vapors without admitting any fresh air, is to produce a partial asphyxiation.

Ordinarily the ether is poured in the top or the bottom of the cone, which is then quickly lowered over the patient's mouth and nose, thereby forcing the inhalation of very dense vapors. The condition of partial asphyxiation, plus the inhalation of dense ether vapors, is directly responsible for the coughing, struggling, frothing and cyanosis.

With these points in mind, let us consider the open or drop method for the administration of ether with a large volume of air. This is not a new method, for it has been used by individual surgeons for many years. Today this method is in such favor that the labels on the Squib's ether cans have directions for fixing the cork for this drop method.

### TECHNIC OF THE METHOD.

The ordinary Esmarch or chloroform mask, covered with six or eight layers of gauze, is held three or four inches above the patient's mouth and nose. The patient is directed to count slowly after the anesthetist, or to breathe in and out, or to blow the vapors away.

The ether contained in the ordinary chloroform bottle with dropper is allowed to drop on the mask somewhat more rapidly than if it were chloroform. The bottle is moved continuously, so that each drop falls on a different spot on the mask, and is thus thoroughly mixed with air, so that when it is inhaled from the mask it enters the lungs as a partially warmed gas well diluted with air. The mask is lowered gradually; at the same time the drops of ether are increased until a very fine, continuous steady stream is being spread over the entire mask. The mask is finally lowered until it almost touches the face.

The average patient will be able to count from 70 to 80, some only 40 or 50, while others may count 120 before unconsciousness begins. This will require from two to three minutes. At the end of a period of from five to seven minutes the patient relaxes and becomes sufficiently unconscious so that the final preparations for the operations may be begun. By the time these are

* Read before the Cleveland Academy of Medicine, June 1, 1906.

completed the patient is in a condition of surgical anesthesia. To accomplish this from two to two and one-half ounces of ether have been administered and from twelve to fifteen minutes have elapsed.

Once the patient is thoroughly anesthetized he is saturated, so to speak, and a lesser quantity of ether is given to keep him in this condition.

During an operation lasting from one to one and one-half hours from five to seven ounces of ether are administered. Soon after the anesthetic is discontinued the patient comes to and frequently awakens before leaving the operating room.

### ADVANTAGES OF THIS METHOD.

Some points of advantage of this open drop method as compared with the cone method in producing ether anesthesia are: By the open method the patient takes in almost as much fresh air as when awake. The loss of consciousness is due to the anesthetic effect of the ether, without the added partial asphyxiation. Therefore, this method is one of purer anesthesia.

By this method the factors of carbonic acid gas poisoning are eliminated and need not be considered. The patient is so gradually introduced to the anesthetic that the change is a transitorial one, during which time the mind, brain, heart, lungs and circulating apparatus quietly assume the new condition of anesthesia.

There is little, if any, choking, holding of breath, coughing, struggling, rigidity or vomiting. The patient's eyes are bright, the skin is warm, the peripheral circulation about the face and head is almost a blush. The perspiration is warm.

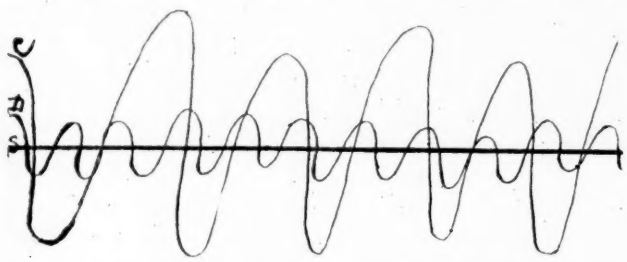


Fig. 1.—The anesthetic curve. S, surgical anesthesia; C, cone method; D, drop method.

Considered as a whole, the patient appears more as if asleep than when under any other anesthetic.

The dosage can be governed to a fine point and is within the control of the anesthetist. The patient can be kept just under, and there rarely exists a state of profound anesthesia.

### THE ANESTHETIC CURVE.

The difference in the anesthetic state between the cone and drop method is graphically illustrated by the diagram in which the abscissa line represents the line of surgical anesthesia and the line of ordinates the anesthetic curve.

Assuming the patient near the point of surgical anesthesia by the cone method, a quantity of ether, usually from 3 to 4 drams, is poured into the cone. This amount of ether reduces the patient to a profound anesthetic state, so that the curve falls from a distance above to a considerable distance below the line of surgical anesthesia. After a time the ether in the cone is consumed, so that the anesthesia is no longer profound and the curve rises until another quantity of ether is added when it again drops.

Now, assuming a patient near the point of surgical anesthesia by the drop method, a few drops of ether are administered almost continuously, so that the patient is at all times just near the point of surgical anesthesia. The anesthetic curve is always only a little above or a little below the line of surgical anesthesia.

By the cone method there must be considerable difference in the degree of anesthesia, while by the drop method the anesthesia is very even.

### GENERAL CONSIDERATIONS.

This form of anesthetic is borne well by infants and the aged. Again, bronchopneumonia in the young, or pneumonia in the aged, as a direct sequence to the anesthetic, does not seem to occur so often as when the cone is used. This may be due to the fact that the ether is not taken in as a very dense vapor capable of abstracting large amounts of heat from the lungs, but enters the lungs as a gas already mixed with air and almost the temperature of the operating room.

This comparative difference in temperature can be easily demonstrated by placing a finger under the mask and noting that it is not even chilled; while if the same operation is repeated within the ether cone, after the ether has been poured in, the finger will be almost as cold as though it had been sprayed with ethyl chlorid. This chilling of the lungs, due to the abstraction of large volumes of heat, may be partially responsible for the pneumonias following ether anesthesias.

Fig. 2.—Crile's Method. Pieces of gauze placed loosely in the funnel so as not to prevent expirations. The top of funnel is covered with six thicknesses of gauze. The ether is dropped slowly on the gauze, great care being taken so it does not run into the tube and directly into the larynx. The arm of the tube is lower than the patient's face to prevent the ether from dropping directly into the tubing. The glass coupling makes it possible to see that the tubing is clear. Stiff rubber tubing is used to prevent kinking and closing off of the tube. By this method of anesthesia operation within the mouth, such as for cleft palate and those on the jaws, can be performed without the slightest interference on the part of the anesthetist.

By this open method, the after vomiting and retching is reduced to a minimum, and I have found it not only far less than when using the cone, but much less than when chloroform is given. If the retching and after-vomiting is reduced, then, not only will there be a great

deal less discomfort to the patient, but severe postoperative dangers are often prevented.

This method is just as applicable to alcoholic patients as any other method of anesthesia. I have administered it to many of the patients at the St. Alexis Hospital during a period of one and a half years, and at Mount Sinai Hospital, Cleveland, where I have been staff anesthetist for a period of three years.

The total amount of anesthetic used for the average patient during an operation, lasting from one to one and one-half hours, will be from 5 to 7 ounces, and this, I may add, is less than the average amount I have found necessary when using the cone.

The disadvantages to many who have tried this method are, first, getting the patient under the influence and, second, keeping the patient under the control of the anesthetic. However, if one recalls his first experiences in giving chloroform or ether, he will remember that he experienced not only the same difficulties, but only too often was confronted by the more serious problem of bringing the patient out from a profound anesthesia. By the drop method the dangers of profound anesthesia are less than when using the cone; and for this reason, if for no other, it is a safer method in the hands of the inexperienced.

If the cone is to be preferred to the mask for the administration of ether, then use the open cone. Pour the ether, in small quantities, in from the top, lower the cone gradually, do not bring it in close contact with the face, and do not wrap a towel around the chin and cone. If the ether is given in this manner and compared with the usual method, the anesthetist will note such a marked improvement in so many points in the anesthetic as to arouse his astonishment. A lesser quantity of ether will be used, the patient will be just under and will awaken very soon after removing the cone.

The advantages of the ether-air anesthesia are well demonstrated in operations within the mouth, when the anesthetic be given through a funnel, covered with layers of gauze and containing pieces of gauze, from which two rubber tubes lead to the nostrils. Here the ether is poured gradually on the gauze and mixed with the air *ad libitum*.

After having given 370 chloroform anesthetics, 260 anesthetics by means of the Allis or similar cones, and over 650 anesthetics by the open or drop method, I desire to state as my positive convictions that, from all points of view and after consideration of the many factors which must be considered in administering an anesthetic, I firmly believe that the open or drop method of giving ether is far superior to the closed or cone method. This open drop method may be properly designated ether-air anesthesia.

1242 Willson Avenue.

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## DANGERS IN THE USE OF ADRENAL PREPARATIONS.

F. C. BENNETT, M.D.
LORING, LA.

In an article in THE JOURNAL, Oct 13, 1906, Dr. B. H. Potts, of Philadelphia, warns the profession of some of the dangers of suprarenal preparations. The following case illustrates a danger in the indiscriminate use of the drug:

A negro, aged 26, male, very rugged and healthy, had a stricture of the urethra. After some difficulty I succeeded in passing a No. 24 French sound. When the sound was withdrawn considerable blood followed it, which greatly alarmed the patient. Thinking to quiet his fears I injected into the urethra about half a dram of adrenalin chlorid (1-1000). In about thirty seconds the patient became restless and moved about, staggered and was laid on the couch. He complained of intense pain about the heart and his breathing was labored and very rapid. The heart beat was so fast that I could not count it. The conjunctiva was blanched. Profuse perspiration broke out all over the body, and the extremities became very cold. The man declared that he was dying and I was inclined to believe him. In about five minutes he began to cough and spat up mouthfuls of bloody froth. The coughing and spitting of blood continued for over an hour. The pulse, which had been very hard, became soft and slow.

The patient gradually became quieter and the symptoms subsided. He slept fairly well the following night and rose the next day very little the worse for his experience.

I gave him morphin, atrophin and nitroglycerin hypodermatically during the continuance of the alarming symptoms.

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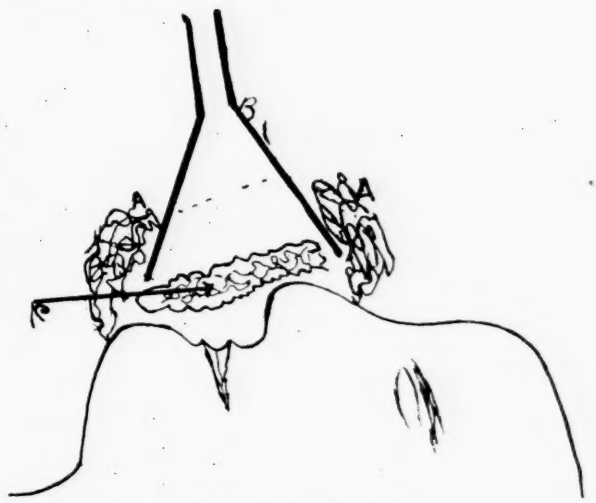
## ETHYL CHLORID AS A GENERAL ANESTHETIC.

A. E. OSMOND, M.D.
CINCINNATI.

I have lately noticed in THE JOURNAL various articles on the use of ethyl chlorid as a short general anesthetic, and some specially constructed masks.

To my mind the latter are too expensive for the general practitioner, and I desire to present a method that I use in the receiving ward of the Cincinnati Hospital.

With the patient on his back, I place over his mouth and nose two layers of thin gauze. Over this I place a tin or glass funnel around the bottom of which is wrapped a towel, as shown in the accompanying illustration. The ethyl chlorid is sprayed down the small end of the funnel.




A, towel; B, funnel; C, gauze.

The gauze keeps the nose from being frozen, and the towel prevents too great a loss of ethyl chlorid, yet gives free access of air, so that the vapor can not be too concentrated. The patient readily goes to sleep.

The expense of such an outfit is about 10 cents; it works equally as well as the more expensive apparatus, and can be had at a moment's notice. I use it daily in any case demanding a short general anesthesia, as, for instance, to reduce a dislocated shoulder or set a fracture, and at all times with happy results. On an average about 10 c.c. of ethyl chlorid are used for each anesthetic.

# New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*Continued from page 1565.*)

## PEGNIN.

MILK SUGAR RENNET.

The milk-curdling enzyme of calf's rennet, diluted with sugar of milk and sodium chloride.

It is prepared by mixing pure rennin with milk sugar and sodium chloride.

It is a fine white powder, having a sweet saline taste, readily soluble in water, and forming a solution which readily and rapidly coagulates the casein of milk.

On adding 2 Gm. of pegnin to 200 Gm. of milk, which has been boiled and cooled to 40°C. (104° F.), and shaking the mixture, the milk should be completely coagulated in from 3 to 4 minutes and after vigorously shaking, the curd should be finely divided and equally distributed throughout the liquid. A solution of 1 Gm. of pegnin in 50 Cc. of water, should require 17 to 17.5 Cc. of tenth-normal silver nitrate for complete precipitation, equivalent to 10 per cent. sodium chloride.

It is incompatible with a temperature higher than that indicated for the fermentative action.

*Actions and Uses.*—Producing a finely divided coagulum, it obviates the formation of the clotty curds which are liable to be produced when untreated cow's milk is taken as food. Cow's milk coagulated with pegnin as described below is said to be particularly serviceable for infant feeding and well adapted as a food for adults in stomach affections and in disturbances of the digestion incident to infectious diseases, in hyperacidity, etc.

*Dosage.*—8 to 10 Gm. (120 to 150 grains) of pegnin are required for 1 liter (34 fluidounces) of milk, previously boiled and cooled to about 40° C. (104° F.). The mixture, after brief shaking, is allowed to stand 2 to 3 minutes or until it is completely coagulated, and then shaken vigorously during several minutes until the coagulum has been converted into a smooth, homogeneous mixture, and set aside in a cool place. It is transferred to the nursing bottle as required and heated in warm water to the body temperature (37.5° C., 99.5° F.) before feeding infants.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York). U. S. patent No. 700,631.

## PIPERAZINE.

DIETHYLENEDIAMINE. ETHYLENE-IMINE. PIPERAZIDINE.

Piperazine, $NH\begin{matrix}\diagup CH_2.CH_2\diagdown \\ \diagdown CH_2.CH_2\diagup\end{matrix}NH = C_4H_{10}N_2$, is a synthetic base obtained by the condensation of two $.CH_2.CH_2.$ groups, with two :NH groups.

It is prepared by the interaction of ammonia on ethylene chloride, treating the complex mixture of different salts produced with sodium nitrite at 60° to 70° C. (140° to 158° F.), purifying the sparingly soluble dinitroso-piperazine, which separates as a scaly crystalline mass, by repeated crystallization from hot water, and subjecting the pure dinitroso-piperazine so obtained to distillation with an alkali. It is also prepared by several other patented processes.

It forms colorless, lustrous, tabular crystals, hygroscopic, which melt at 104° C. (219.2° F.). It is extremely soluble in water, forming strongly alkaline but non-caustic solutions. It is not so readily soluble in alcohol. It is volatile. It forms soluble salts with acids, and with uric acid it forms a very soluble salt (in 56 parts of water; lithium urate requires 368 parts of water). It is not affected by chromic acid, but is slowly oxidized by potassium permanganate.

In aqueous solution it gives a characteristic scarlet-red precipitate with potassium-bismuth iodide, a white precipitate with Nessler's reagent, and is precipitated light blue by copper sulphate, white by mercuric chloride, lemon-yellow (crystalline) by picric acid and grayish by tannic acid.

It is incompatible with acetanilide, acetphenetidin (phenacetin), alkaloidal salts, nitrites, metallic salts in general and with picric and tannic acids. It should not be exposed to moisture.

*Actions and Uses.*—A part of the piperazine ingested passes undecomposed into the urine and is claimed by some to form a very soluble compound with the urinary uric acid; others state that the piperazine which is excreted is largely in combination with the stronger mineral acids. It has been shown that urine containing piperazine has no greater solvent power on uric acid than ordinary urine. It seems to produce no symptoms in man or animals, even when administered in fairly large quantities, although it is stated that, after large doses, tremors, clonic spasms and general depression have occurred.

Piperazine has been recommended for the prevention of the formation of renal and vesical calculi and for the relief of irritation of the bladder due to excess of uric acid in the urine and in cases of chronic gout, rheumatism, renal colic, etc. The attempt to secure the solution of uric acid in the body by this as well as other remedies has not been successful in the experience of many clinicians.

*Dosage.*—0.3 to 0.6 Gm. (5 to 10 grains); daily dose, 1to 2 Gm. (15 to 30 grains). Owing to its hygroscopic character, it is impracticable to dispense it in powder; it should, therefore, be dispensed in solution in water, plain or carbonated, but in quantities sufficient for a day's supply only.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York). U. S. patent No. 482,108. Also by Chemische Fabrik auf Actien vorm. E. Schering, Berlin (Schering & Glatz, New York). U. S. patent No. 543,214.

## POLLANTIN (FALL).

DUNBAR'S SERUM.

An antitoxic serum from horses treated with pollen toxin derived from ragweed.

Horses are injected with gradually increased doses of pollen toxin (derived from ragweed), which results in the formation of an antitoxin after two or three months of treatment. The horses are then bled and the strength of the serum is estimated by determining the proportion which will prevent the action of a solution of pollen toxin, of which one drop is barely sufficient to produce a reaction when instilled into the conjunctival sac of a hay-fever patient. The serum is preserved by the addition of 0.25 per cent. of phenol.

It is a clear, slightly yellowish liquid, having the odor and taste of a dilute solution of phenol. On standing, the liquid deposits a slight precipitate. The liquid is alkaline in reaction and not irritating to the normal conjunctiva.

It should neutralize the effects of a solution of pollen toxin when mixed with it and dropped into the eye or when a drop is applied immediately after a drop of the toxin solution.

The liquid does not keep well if exposed to the air. When it becomes cloudy or a bad odor develops, decomposition has occurred and the preparations should no longer be used.

*Actions and Uses.*—It has no pharmacologic action except the neutralization of the pollen toxin. The serum is not intended for use hypodermically. It is employed for the relief of hay fever; it may be used as prophylactic.

*Dosage.*—One drop should be instilled by means of a pipette into the outer angle of each eye and one or two drops into one nostril, the other being kept closed, every morning before rising. If the first application causes sneezing or reddening of the mucous membrane of the eye, it is recommended to repeat the application, even for the fourth time, if necessary.

Manufactured by Schimmel & Co., Miltitz, near Leipsic. (Fritzsche Bros., New York.) U. S. patent No. 745,333.

## POLLANTIN POWDER (FALL).

A powder obtained by evaporating, *in vacuo*, pollantin serum derived from ragweed toxin at about 45° C. (113° F.) and mixing it with sterilized sugar of milk.

It is fine, slightly yellowish, almost odorless powder, almost but not entirely soluble in water, and having a slight alkaline reaction. The tests are the same as for the liquid. It should produce Fehling's solution. The powder keeps well.

*Actions and Uses.*—The same as those of the liquid.

*Dosage.*—The powder is applied to the eyes by dusting on the conjunctiva and to the nose by snuffing into one nostril, the other being closed, a piece as large as a lentil.

Manufactured by Schimmel & Co., Miltitz, near Leipsic (Fritzsche Bros., New York).

## PURGATIN.

ANTHRAPURPURIN DIACETATE. PURGATOL.

Purgatin, $C_{14}H_5(OH)(CH_3COO)_2O_2 = C_{18}H_{12}O_7$, is the diacetyl ester of trihydroxyanthraquinone (anthrapurpurin).

According to the patent specifications it is obtained from anthrapurpurin or 1.2.7-trihydroxy-anthraquinone, through acetylization, by boiling for a stated time with acetic anhydride, or a mixture of acetyl chloride and acetic acid, or a mixture of acetic acid and phosphorus oxychloride.

It is a voluminous, orange-colored, crystalline powder, melting at 175° to 178° C. (347° to 352.4° F.); tasteless and insoluble in water and in dilute acids, but slowly soluble in weak alkaline solutions, splitting off anthrapurpurin, which is manifested by the development of a deep violet-red coloration.

It is incompatible with alkalies and their carbonates.

*Actions and Uses.*—It is a laxative, said to be free from by-effects. Being insoluble in dilute acids, it passes unchanged into the intestinal tract, where it is slowly split up and produces painless peristalsis. The urine behaves as it does after the ingestion of rhubarb. It has a reddish color and reduces Nylander's reagent. Purgatin is recommended as a mild laxative.

*Dosage.*—0.5 to 2 Gm. (7 to 30 grains), according to individual idiosyncracy, in powder, capsules or tablets, taken at night.

Manufactured by Knoll & Co., Ludwigshafen a. Rh. and New York. U. S. patent No. 678,070.

## PYRAMIDON.

DIMETHYLAMIDOANTIPYRINE.

Pyramidon, $C_6H_5N\begin{matrix}\diagup CO\text{———}C.N(CH_3)_2\\ \diagdown N(CH_3).C(CH_3)\end{matrix} =$ $C_{13}H_{17}N_3O$, is phenyl-dimethyl-dimethylamido-pyrazolon, a substitution product of antipyrine, $C_{11}H_{12}N_2O$, into the molecule of which a dimethylamino group, $N(CH_3)_2$, has been introduced.

It is prepared by the reduction of nitroso-antipyrine to amidoantipyrine and treating this with methyl chloride or iodide.

It forms small, colorless, slightly alkaline crystals, melting at 108° C. (226.4° F.); almost tasteless; soluble in 11 parts of cold water and readily soluble in alcohol, ether and benzene. Its aqueous solution saturated at 70° C. (158° F.) deposits oily globules of pyramidon on boiling.

Ferric chloride colors the neutral or slightly acidulated solution of pyramidon a bluish violet color; nitrous or nitric acid produces a fugitive blue-violet color; silver nitrate produces an intense violet coloration when added to the aqueous solution, followed by the formation of a black precipitate of metallic silver, and the same color is produced by platinum chloride, by ammonium persulphate and by lead dioxide. In hydrochloric acid solution pyramidon gives a fine crystalline double salt with mercuric chloride.

Its incompatibilities are in general the same as those of antipyrine. Oxidizing agents (also acacia) often produce colored solutions.

*Actions and Uses.*—Pyramidon acts as an antipyretic and anodyne, like antipyrine, but is effective in much smaller doses. The action, while somewhat slower at the beginning, is more lasting. It is claimed to be devoid of harmful influence on the blood, heart or kidneys; to the contrary, it is said to stimulate the heart's action. It has been recommended particularly in the chronic fevers of tuberculosis, as well as in the acute febrile conditions incident to typhoid fever, erysipelas and pneumonia.

*Dosage.*—0.3 to 0.4 Gm. (5 to 6 grains), most conveniently in the form of tablets, a single dose usually sufficing for 24 hours.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York). U. S. patent No. 579,412.

## PYRAMIDON NEUTRAL CAMPHORATE.

This compound, $(C_{13}H_{12}N_3O)_2.C_{10}H_{16}O_4$, is a neutral salt of pyramidon and camphoric acid.

It is prepared by combining its components with the aid of suitable solvents, under exclusion of light, moisture and heat.

It is a white, crystalline powder, melting (indefinitely) at 80° to 90° C. (176° to 194° F.). It dissolves with acid reaction in 15 parts of water or 2 parts of alcohol.

It gives the characteristic reaction of pyramidon (which see) with silver nitrate. If the solution in hot water is made alkaline with caustic soda, the pyramidon may be shaken out with chloroform; if the residual aqueous liquid is then acidified with sulphuric acid the camphoric acid (melting point 186° C., 366.8° F.) may be shaken out with ether.

*Actions and Uses.*—See pyramidon acid camphorate.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York). U. S. patent No. 686,998.

## PYRAMIDON ACID CAMPHORATE.

This is an acid salt of pyramidon and camphoric acid, $C_{13}H_{17}N_3O.C_{10}H_{16}O_4$.

It is prepared under the same conditions as the neutral salt.

It is a white, crystalline powder of acid reaction, melting (indefinitely) at 84° to 94° C. (183.2° to 201.2° F.); soluble in 20 parts of water or in 4 parts of alcohol.

The tests are the same as for the neutral salt.

*Actions and Uses.*—The acid and neutral salts combine the antipyretic action of pyramidon with the antihydrotic action of camphoric acid. It is claimed that in these compounds the respective action of the component is modified, the antihydrotic effect of the camphoric acid being materially increased, while the toxicity of the pyramidon is diminished. In the neutral salt, the antipyretic action of the pyramidon predominates; in the acid salt the antihydrotic effect of the camphoric acid.

They are particularly recommended in the febrile conditions of phthisis, attended by profuse sweating.

*Dosage.*—Neutral camphorate, 0.5 to 0.75 Gm. (8 to 12 grains); acid camphorate, 0.75 to 1 Gm. (12 to 15 grains), given in powders or aqueous solution.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York). U. S. patent No. 686,999.

## PYRAMIDON SALICYLATE.

Pyramidon salicylate, $C_{13}H_{17}N_3O.C_7H_6O_3$, is an acid salt of pyramidon and salicylic acid.

It is prepared by combining its components with the aid of a suitable solvent and avoidance of exposure to light, moisture and heat.

It is a white, crystalline powder, having an acid reaction and melting indefinitely at 68° to 70° C. (154.4° to 158° F.). It is soluble in 16 parts of water or 5 to 6 parts of alcohol.

The aqueous solution is colored intensely red by ferric chloride, and produces a white precipitate with silver nitrate, the solution assuming a violet color after a short time.

It is incompatible with ferric salts.

*Actions and Uses.*—It is antipyretic, analgesic and antiseptic, combining the activity of its components.

It is recommended in rheumatic and gouty affections, neuralgia, pleuritis, etc.

*Dosage.*—0.5 to 0.75 Gm. (8 to 12 grains) in powder or aqueous solution.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York). U. S. patent No. 680,278.

*(To be continued.)*

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SATURDAY, NOVEMBER 17, 1906.

## THE PHYSIOLOGIC STANDARDIZATION OF DRUGS.

The scientific striving for exactness has led to two distinct tendencies in materia medica: The first consists in the substitution of the active principles isolated from a drug for the crude drug itself. This is undoubtedly the correct and scientific method, when the isolated principle really represents the full therapeutic value of the drug; but, since this is by no means always the case, the method has its limitations.

The second method consists in the estimation of the strength of a crude or unstable drug by assay processes, i. e., by the determination of the amount of some active constituent contained therein. Perhaps the most notable advance in the new U. S. Pharmacopeia consists in the increased requirements in this respect and in the greatly enlarged list of drugs and preparations for which an assay is directed. With the single exception of diphtheria antitoxin, these assays are all based on chemical methods, in accordance with the instruction of the pharmacopeial convention. It is well known, however, that there are many medicinal substances—including such important articles as digitalis, ergot, strophanthus, suprarenal gland, etc.—for which no satisfactory chemical assay has been elaborated, but the strength of which can be ascertained by appropriate experiments on animals.

These so-called physiologic assay processes yield very satisfactory results with many drugs, and are usually not difficult to execute for those trained in the technic of animal experimentation. It is doubtless true that this training is not possessed by the pharmacist. The expense of these tests is also such that it would not be profitable to apply them on a small scale, but they can be applied in the large manufacturing houses, or by the importers of crude drugs; and, indeed, a very large part of the credit of introducing these methods of standardization is due to the individual enterprise of American firms. Since each firm, however, uses its own methods and standards, a "standardized" product of one maker may be very different from that of another; indeed, in the absence of published standards, we have little more than the word of the manufacturer for his statement that his product has been assayed. To illustrate, we may again refer to the reports[1] of Hunt and of Sollmann and Brown on suparenal preparations. All the manufacturers claimed a uniform strength, i. e., one part of the alkaloid in 1,000 of solution. Two makers, X and Y, emphasize in their advertising that they assay each lot physiologically; if the same standards were used, the products should be uniform, but, as a matter of fact, X is found 50 per cent. stronger than Y. A third maker, Z, advertises that all his products are of the highest standard, and subjected to chemical and physiologic assay. Hence, his suprarenal solution should be expected to come up to X, or at least Y. In fact, however, it is but a fifth as strong as X. We have no reason to believe that the manufacturer of X is honest and those of Y and Z intentionally dishonest. It is much more likely that they all standardize their products, but that they do so by different standards. And this must necessarily continue until official sanction is given to some single standard, and fairness to the manufacturer as well as to the public would seem to require this.

It would be a mistake, we believe, to make these assays compulsory, in view of their impracticability for the retail pharmacist, but there could be no objection to introducing official methods and standards to which such preparations which are simply marked "physiologically assayed" must conform. This would give a definite meaning to a term which is now most indefinite. It would leave the manufacturer free to use other methods, should he so desire, but would compel him to state the fact. It may also be remarked that the warranty clause of the new Pure Food Law would relieve the retail pharmacist from the responsibility for tests which he could not himself execute.

It is to be hoped that the next pharmacopeial convention will appreciate the importance of this subject, and direct the adoption into the United States Pharmacopeia of suitable standards (optional if need be) wherever practical and advisable. It will be a matter of ten years, however, before the next Pharmacopeia becomes official, and the matter is too pressing, at least as regards the suprarenal preparations, to be shelved in the meantime. The adjustment of these standards would require considerable original investigation, which should be started at once.

The further question as to what body should take the initiative in this movement may be a rather delicate one, but, in view of the importance of the subject, all secondary consideration should be laid aside. It would seem that the best method to give immediate effect would be for the Hygienic Laboratory of the U. S. Public Health and Marine-Hospital Service to take up the matter, as it has facilities to do this work. Undoubtedly, the manufacturers would coöperate in this, as they have done in the stardardization of diphtheria antitoxins, which has been done by the above laboratory with such satisfactory results.

1. THE JOURNAL A. M. A., Sept. 8, 1906, p. 790.

## THE DESMOID REACTION IN GASTRIC DISEASES.

While the value of the stomach tube as a diagnostic agent can not be denied, it is safe to affirm that there are drawbacks to its use, which, at times, are serious. Aside from the definite contraindications to the use of the tube, some patients are so impressed by the obvious discomforts attending its use, and are rendered so nervous by the thought of it, that they refuse point blank to have the instrument introduced. After the test meal has been given, and has been successfully withdrawn, there is always more or less doubt whether the secretion of the acid and ferments of the stomach can be regarded, under the peculiar circumstances, as even approximately normal. The test meal is bland and unirritating and hardly comparable in stimulating power to an ordinary meal, and, moreover, the psychic condition of the patient is very frequently such that some disturbance in the secretion of the digestive juices is almost to be anticipated. It must be remembered also that the test meal, withdrawn, as it is, after an hour, undergoes changes in the stomach which may result in the neutralization of a certain amount of acid.

Some time ago Sahli, impressed by the drawbacks of the ordinary test meal, suggested the use of a method of examination which he named the desmoid reaction. The reaction has as its basic principle the fact that the gastric and pancreatic juices act independently and in a totally different manner. Sahli's idea was to find some substance digestible by the stomach juice, but not by the pancreatic or intestinal fluids, and to enclose in this substance medicaments which would be absorbed by the stomach and appear in characteristic form in the secretions. After some experimentation, he has decided that methylene blue and iodoform are the most suitable chemical substances, as they are excreted by the urine, and can be easily recognized therein. To protect them from the action of the pancreatic and intestinal juices they are made into a small pill, wrapped in a small square of rubber tissue, and protected from the action of the intestinal digestive ferments by closing the rubber tissue bag with catgut. As both catgut and rubber tissue are impermeable to the pancreatic and intestinal juices the methylene blue and iodin do not appear in the urine if gastric digestion is markedly deficient. In the case of normal gastric digestion the catgut string is dissolved, allowing the square of rubber tissue to be opened, and permitting the absorption of the methylene blue and iodin. The latter substances may be given separately or combined, usually the latter, are administered as described above, at the beginning of the noon meal, and are tested for at 5 and 7 o'clock in the evening, and again on the following morning. Usually, too, the saliva is tested at the same time for the presence or absence of iodin.

The desmoid reaction has several advantages over the use of the stomach tube. It is not a very disagreeable procedure to swallow a small rubber-coated pellet, certainly by no means so unpleasant as the usual performance with the stomach tube; the reaction is brought about under the normal circumstances of digestion; it may show digestive power where a test meal has shown no acid whatever; and it shows not merely the presence or absence of certain substances, it shows functional ability. Its absence with a normal gastric juice indicates excessive motility of the stomach. The main drawback, according to Monod,[1] is that it does not show when an excess of acid is present. While the desmoid reaction will probably prove to be a valuable adjunct to the ordinary gastric examination, it is not likely that it will entirely replace this. No doubt it will tend to reduce the number of patients who have to be put through the ordeal of the stomach tube, if it is used as a preliminary test; it will be useful also in showing remaining gastric function, and perhaps in indicating a more favorable prognosis, in patients whose secretion has seemed entirely lacking in digestive power when tested in the ordinary way. Evidently it can not take the place of the ordinary examination in hyperchlorhydria, and this must not be forgotten.

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## THE MIGRATORY NEEDLE STORY.

Every now and then in the newspapers there is a wonderful story of a needle that entered the body of a person many years ago and, after remaining there, giving absolutely no sign of its presence, makes its appearance at a more or less distant point and is removed. The favorite newspaper item is that it entered a finger of one hand and came out of one of the fingers of the other. When a really talented correspondent reports the story the needle always comes out of the finger corresponding to the one which it entered on the other side. Occasionally, as was recently the case in the *New York Herald*, a correspondent suggests that such migrations deserve careful study, because they may point to some law of circulation within the tissues as yet imperfectly understood or perhaps not even guessed at in present-day medicine.

A story that recently went the rounds was a variant on the old-time needle migration, because the traveling object was that interesting element of romantic detail—a serpent's fang. This, after having supposedly entered into the thumb of the right hand, came out on the left. Unfortunately for the most sensational part of the story the actual details showed that a portion of the fang had entered one thumb some years ago, and, its presence having been unsuspected and having created no reaction—it was the fang of a non-poisonous serpent—gradually worked its way to the surface of the same thumb, producing a small inflammatory area in the process, and found its way out.

Of course, newspapers will continue to print such stories because it is copy that certain readers feast on

1. Jour. de Physiol. et de Path. gen., 1906, vol. viii, p. 853. See abstracts in THE JOURNAL, page 1420.

with avidity. In the meantime it would be well to know from a scientific standpoint just how far the migration of small sharp objects is possible. Such cases as present the phenomena of migration should be reported with care. The accounts of ignorant patients can not be depended on. Occasionally, when needles have appeared in the abdominal wall there is no doubt that they have been swallowed, though sometimes such appearances are accounted for on the supposition that a needle may have found its way beneath the skin of the hand or the foot. Although there is no definite memory of such an occurrence at first, after the person has thought over the matter for some time, some incident is remembered that seems to suggest that such an incident may have occurred. Here is a chance for studies in suggestion and psychology as well as in surgery and physiology, but the subject deserves more accurate attention than has hitherto been given it.

## THE NEGRO BRAIN.

There is little doubt that the race feeling which is present in those states which contain a large negro population is due to the fundamental differences of a psychologic and temperamental character between the two peoples. It is interesting, therefore, to find in Bean's[1] recent paper the evidence that there are anatomic differences in the brain of the negro which distinguish it from the brain of the Caucasian, and which doubtless account for the differences in mental character which distinguish the two races. The negro brain is smaller than the brain of the Caucasian, especially so far as the frontal lobes are concerned and the areas having to do with the association of this part of the brain with other regions. From what we know of the functions of the frontal lobes, and of the mental differences between the races, Bean concludes that the lower mental faculties of the negro, such as smell, sight, handicraftmanship, bodysense and melody, are well developed, but in the higher faculties, self-control, will power, ethical and esthetic senses and reason the negro falls considerably behind the Caucasian.

## FLAT RESIDENCE AND INSANITY.

An official of the state board of charities of one of our larger states is credited with the assertion that a large proportion of the insanity in women in cities is due to living in flats and that the isolation and monotony of such a method of existence is the cause. Hitherto, he says, the monotony of farm life has been regarded as a principal cause of female insanity, but now the city flats are running the farm a close second. While it is probable that the effects of farm life have been over-rated and that it is likely that those of flat buildings may possibly be subject to the same charge, it can not be denied that there is a possibility of evil in the great extension of the flat system of dwellings so far as the mental, as well as the physical, health of the community is concerned. The congregation of individuals and families in flats does not tend apparently to a greater community of interest or to social intercourse. Even in the better class of tenements there are disadvantages in the lack of interest and occupation as compared with housekeeping under other conditions, and, owing to the exigencies of city building space and the greed of landlords, many of the even moderately expensive flats are anything but sanitary on account of the lack of light and ventilation. Living rooms in which the sun can never enter directly, or at best for only a brief portion of the day, are not only unhealthy, but are mentally depressing, and it need not be thought surprising that some women with melancholic dispositions should suffer from such environment. With the poorer class of tenements all evils are likely to be exaggerated. The fact is, however, that the greater portion of the insanity is already coming from the cities, and the flat is only one of the contributing factors among all the others incident to the overcrowding of population. The prospect is that matters are liable to be worse before they are better if the present tendency of crowding into apartments continues.

## IODOPHILIA.

We have previously commented on the iodin reaction of the leucocytes, the so-called iodophilia, and have called attention to the value of the test in clinical medicine, a value especially emphasized by the work of Cabot and Locke in this country. In all new tests the danger is to overestimate rather than to underestimate the value of the procedure, and it is well to take stock of a new test or a new discovery after it has had two or three years of use at the hands of competent and unprejudiced observers. A recent paper by Bernicot[1] suggests that we shall have to modify our estimate of the usefulness of the test for iodophilia. Bernicot's paper brings out the fact, soon discovered by those who used the test, that a good deal of experience is needed to interpret the findings. He emphasizes also the lack of relation between the presence of iodophilia and the degree of leucocytosis, but thinks that the degree of iodophilia and the degree of toxemia run fairly parallel. He believes that the reaction is evidence of toxemia, whether bacterial or otherwise, and that it is so inconstant and variable that it is unworthy of use as a routine procedure. There are two conditions, however, according to Bernicot, in which the iodin reaction is of great value: lobar pneumonia, in which its persistence after the crisis signifies complication or delayed resolution, and suspected abscess, in which its absence is of great negative value.

## SERA FOR SNAKE BITES.

Compared to India, or even to Australia, the United States does not lose many inhabitants from the bites of poisonous snakes. And yet those who con the daily papers know that, especially in the South and West, a year never passes without a number of fatalities from this cause. A little over ten years ago Calmette an-

1. Amer. Jour. of Anatomy, 1906, vol. v, p. 353.

1. Jour. of Pathology and Bacteriology, 1906, xi, 304.

nounced that he had discovered an antitoxin which would protect against all varieties of snake bite, and even against scorpion bites, and was, moreover, curative. The vast mass of work on immunity and allied problems done since this announcement has made increasingly clear that antisera, like toxins, usually have a marked degree of specificity. Calmette's conclusions have been shown to be erroneous, and his serum has been demonstrated to be of value only in cobra poisoning. In practically all snake poisons there are at least two kinds of toxin, one acting on the central nervous system, the other producing a local hemolytic and necrosing action. In some snakes, the cobra, for instance, the nerve poison is greatly predominant in the venom; in others, like the rattlesnake, the hemolytic and necrosing substance is in the ascendant. The difficulty in producing a serum antagonistic to the venom of the rattlesnake has been due to the fact that the intense local effects of the poison had to be overcome, while at the same time the toxin must not be so injured that its power of producing antibodies was lost. This was accomplished by Noguchi[1] some time ago, and he has recently published a further study in which he shows that the poison of the rattlesnake has a high degree of specificity and that rattlesnake bites must be treated by a specially prepared serum. The point of practical interest in connection with this paper is the high degree of therapeutic efficiency possessed by the anticrotalus serum. Animals which had been poisoned with virulent snake poison could be rescued almost up to the time they became moribund by its administration. There seems good reason to believe that an anticrotalus serum of sufficient therapeutic power to be of service in cases of rattlesnake bite in man can be prepared, but whether its use would be sufficiently extensive to make its manufacture a commercial success is another matter. Whether it is prepared or not will probably depend on this last factor.

1. Jour. of Exp. Med. 1906, vol. viii, p. 614.

## Medical News

### ILLINOIS.

**Personal.**—Dr. John C. O'Connor and family, Buffalo, have returned from Pueblo, Colo.——Dr. Frank E. Baldwin, Peoria, who is suffering from septicemia, is improving.

**Addition to Hospital.**—A 12-room addition to the main building of Beverly Farms, Godfrey, has just been completed and furnished, and the new school and gymnasium building is also open for continuous service. Dr. W. H. C. Smith is superintendent of the institution.

**Burning Leaves.**—Dr. James A. Egan, secretary of the State Board of Health, declares that there should be an ordinance against the burning of leaves at night, or in the evening, as the smoke irritates the throat and leaves it susceptible to the lodgment of germs of diphtheria and other diseases.

**Typhoid Fever at Mont Clare.**—Typhoid fever is reported to be raging at Mont Clare and the surrounding territory, on the northwestern border of Chicago. Officials of the health department report that the outbreak is due to an impure milk supplied by one dealer. Twenty cases are reported in the village.

**Quarantine Enforced.**—Stringent action is being taken by the State Board of Health compelling the observance of rules of quarantine in the village of East Springfield, where several cases of diphtheria have developed. Under the direction of the village board, an armed guard is maintaining quarantine. ——The Stuart School, Springfield, which has been closed on account of diphtheria, was reopened November 5.

### Chicago.

**Gas Kills Hospital Employés.**—Two employés of the German Hospital were asphyxiated by gas and two others were overcome in the room in which all four slept at that institution, November 8.

**Donation to Institute.**—The Pasteur Institute, Paris, has donated to the Turck Institute a complete collection of all micro-organisms known to infest the gastrointestinal tract of man. This collection includes specimens obtained from all parts of the world.

**Diphtheria.**—Diphtheria continues to spread and the mortality is higher than in any October or November for four years. The chief medical inspector attributes this increase to the absence of school inspection, and is making every effort to have this service resumed.

**Cocain Seller Arrested.**—George Styer, a druggist on West Randolph Street, is reported to have been arrested, November 8, on the charge of selling cocain to Walter Butler. He was arraigned before Justice Schott on the charge of disorderly conduct, and is reported to have admitted selling the drug.

**Examination.**—An examination will be held at St. Joseph's Hospital, Joliet, December 12, at 2 p. m., for interne. Any reputable physician, a graduate of a medical college, is eligible for the appointment. Those wishing to take the examination should address the Sister Superior, St. Joseph's Hospital, Joliet.

**Typhoid Fever Prevalent.**—The health department reports that typhoid fever is more widely spread throughout the country than at any time since 1902. It is especially prevalent in localities dependent for their water supply on shallow wells and streams, which, on account of the phenomenally dry weather have become polluted.

**Personal.**—Dr. D'Orsay Hecht has been elected assistant professor of nervous and mental diseases and medical jurisprudence in the Northwestern University Medical School.——Dr. Edson B. Fowler has returned after a year in Europe.—— Dr. H. R. Pitz has been added to the staff of the Michigan Asylum for the Insane, Kalamazoo.

**Deaths of the Week.**—For the week ended November 10, 514 deaths were reported from all causes, equivalent to an annual death rate of 13.08 per 1,000. Pneumonia caused 68 deaths; consumption, 66; violence (including suicide), 38; heart diseases, 36; nephritis, 35; acute intestinal diseases, 34; nervous diseases, 24, and cancer, 22.

**Tillman to Aid Charity.**—On November 27 Senator Tillman of South Carolina will lecture in Orchestra Hall for the benefit of the equipment fund of the new Chicago Union Hospital, on the subject, "Shall the United States Annex Cuba?" The new hospital is a five-story brick structure, and is now nearing completion at a cost of about $60,000.

**Lot Deeded to Hospital.**—A deed has been placed on record whereby Otto Young transfers to Dr. Frank Billings the property at the northwest corner of South Park Avenue and Sixty-fourth Street, a site selected more than a year ago for the McCormick Memorial Institute for Infectious Diseases, but which was made unavailable for that purpose by the action of the city council at that time.

### INDIANA.

**Acquitted.**—In the case of the board of health of Madison against Dr. Nathan P. Graham, charged with failure to report a case of smallpox, the mayor declared the charge against Dr. Graham not sustained.

**Personal.**—The State Board of Health has accepted the resignation of Dr. Thomas V. Keene, Indianapolis, its pathologist.——Dr. James R. MacCracken, Garrett, will leave for Pueblo in a few days on account of his health.——At the annual election of the Fort Wayne Academy of Medicine, November 3, Dr. Garrett von Swerngen was elected president; Dr. Charles Beall, vice-president; Dr. Louis E. Brown, secretary, and Dr. Adam L. Schneider, treasurer.

**District Society Meeting.**—At the semi-annual meeting of the Ninth Councilor District Medical Society, held November 8, at Lafayette, about 80 physicians were present. The president, Dr. Charles Chittick, Frankfort, presided. Dr. William S. Walker, Lafayette, delivered the address of welcome. An

amendment of the by-laws providing that the annual meeting should be held in October was carried, and an amendment was also passed that each society in the district should be represented by one member and one alternate. Dr. George F. Keiper, Lafayette, read a letter from the governor, showing his approval of the movement for the establishment of a state sanatorium for tuberculosis. After the reading of papers the physicians were entertained at dinner at Lafayette Club by the Tippecanoe County Medical Society. Dr. George F. Beasley, Lafayette, acted as toastmaster.

## MARYLAND.

**Cornerstone Laid.**—The cornerstone of the north wing of the Frederick City Hospital, donated by Mrs. Margaret E. S. Hood, was laid with appropriate ceremonies November 2.

**Schools Closed.**—The trustees of the public schools of Hyattsville, Marlboro and Berwyn, Prince George County, have closed the institutions temporarily on account of the prevalence of diphtheria.

**Emergency Hospital Closed.**—The Emergency Hospital of Frederick, which has been in operation for the last three years, has been closed by action of the Frederick County Medical Society, which established the hospital. The institution is entirely solvent, but owing to lack of adequate state and other support, it is deemed best to close it.

**Vaccine Physicians Named.**—The county commissioners of Cecil County have appointed the following vaccine physicians: Drs. Edwin N. Crawford, Ceciltown; J. J. Wright, Warwick; William C. Karsner and Thomas J. Conrey, Chesapeake City; John H. Jamer and William T. Morrison, Elkton; Camillus P. Carrico, Cherry Hill; Philip B. Housekeeper, North East; L. George Taylor, Perryville; Harry E. Clemson and S. Groome Fisher, Port Deposit; George S. Dare and John B. Slicer, Rising Sun; Samuel T. Roman, Conowingo; Ernest Roland, Liberty Grove; David T. Gifford, Zion, and Davis H. Richardson, Calvert.

### Baltimore.

**Personal.**—Dr. Francis J. Kirby, who has been seriously ill at the St. Joseph's Hospital, is reported to be convalescent.——Dr. William H. Smith is in Paris.——Dr. Robert E. L. Campbell, who has been spending two years in Europe and the East, has returned to Baltimore.

**Service for Medical Men.**—The second annual service for physicians, medical students and nurses, modeled after that held in St. Paul's Cathedral, London, was held in Grace Church, November 4. The service was conducted by the bishop of Delaware and the offertory was for the Hospital for Consumptives of Maryland.

**Examination of School Children.**—Medical examiners of public schools report that they examined 11,293 children in October, of whom 3,651 were suffering from slight ailments of the eye, ear, nose, throat, skin or nervous system. All but 236 of the children had been vaccinated and only 62 were obliged to be removed from school for treatment.

**Bequest to Hospital.**—The Maryland University Hospital has been named in the will of the late J. G. Harvey for a large residuary bequest. The value of the estate is estimated at from half a million to a million dollars and is left in trust. The income on it is to be paid to an only son, and at his death the estate is to be equally divided between the University Hospital, Union Protestant Infirmary and the Hospital for Consumptives.

**University of Maryland Centennial.**—The dates of holding the University of Maryland centennials have been definitely fixed at a meeting of the committee of regents, faculties and alumni, held last week. The ceremonies will commence May 3 with a general home-coming and alumni day. There will be a reception at the University Hospital, followed by private receptions and society and class reunions in the evening. The buildings will be decorated, illuminated and will be open for inspection. May 31 will be University Day, when joint commencement exercises of the various schools will be held, with the conferring of honorary degrees, followed in the evening by a banquet. June 1 will be students' day, devoted to athletics, excursions, torchlight procession, students' banquet, etc. June 2, Sunday, will be celebrated by religious ceremonies and commencement exercises. Dr. John C. Hemmeter is chairman of the joint committees.

## MASSACHUSETTS.

**School Closed.**—The Malden school board has closed the Coverly school on account of the prevalence of diphtheria.

**Personal.**—Dr. A. F. Downing, Cambridge, has been appointed physical inspector by the State Civil Service Commission.——Dr. Arthur V. Goss has been elected superintendent of the Taunton Insane Hospital, vice Dr. John P. Brown, resigned.——Dr. Fred M. Stiles, Waltham, was recently injured in a collision between automobiles.

**Red Cross Election.**—The Massachusetts Red Cross Society elected the following medical men on its board of officers for the ensuing year: Vice-presidents, Drs. Henry P. Walcott, Arthur T. Cabot and Herbert J. Burrell; executive committee, Dr. Edward H. Bradford, and advisory committee, Drs. Homer Gage, James T. Adams and David Cheever. During the past year $89,250 was collected by this branch of the association.

**Harvard Scholarships.**—The faculty of the Harvard University Medical School has awarded the scholarships for the year 1906-1907 as follows: The Claudius M. Jones scholarship of $250 to F. O. West; two Hilton scholarships of $225 each to M. J. Shaunessey and H. V. Hendricks; the Charles E. Porter scholarship of $225 to A. A. Howard; the Edward M. Berringer scholarship of $200 to C. A. McDonald; the Alfred H. Sinder scholarship of $200 to W. J. C. Sharpe; the Edward Wigglesworth scholarship of $200 to H. Morrison; the John T. Taylor scholarship of $200 to H. S. Bernstein; the Lucius F. Billings scholarship of $200 to E. D. Bond; two Eveleth scholarships of $200 each to R. C. Hunt and J. E. Overlander; the two halves of $100 each of an anonymous gift to H. H. Smith and M. H. Neill; the Orlando W. Don scholarship of $100 to J. P. Leake; the Charles P. Strong scholarship of $100 to C. W. Waddell; two-thirds of the John Foster fund, amounting to $100, to E. T. Congdon, and the Cotting gift of $125 to A. T. Grant.

**Tuberculosis Society Meets.**—The annual meeting of the Boston Association for the Relief and Control of Tuberculosis called attention to the fact that 4,702 persons died of this disease in the state in 1905, and that about 9 per cent. of all the deaths were from this cause. The association has been active this year in promoting the new hospital for Boston which is to be built at Mattapan; the development of the day camp on Parker Hill; the tuberculosis classes for home treatment, of which there are now three; the care of these patients by the Instructive District Nursing Association, and the "social service department," which has been started in connection with the out-patient department of the Massachusetts General Hospital. The receipts during the past year were $13,138. Dr. Edward O. Otis is president, Dr. Arthur K. Stone, vice-president, and the following physicians are on the council: Drs. George S. C. Badger, John G. Blake, Vincent Y. Bowditch, Arthur T. Cabot, Herbert C. Clapp, William T. Councilman, Samuel H. Dargin, Harold C. Ernst, George W. Fitz, Reginald H. Fitz, Elliott P. Joslin, Frederick I. Knight, James J. Minot, Joseph H. Pratt, Charles P. Putnam, George H. M. Rowe, Frederick C. Shattuck and Henry P. Walcott.

## NEW JERSEY.

**Personal.**—Dr. Waldo F. Sawyer was elected mayor of Vineland, November 6.——Dr. Eugene J. Asnis has been appointed a member of the Woodbine board of education.——Dr. Leslie L. Hand, Millville, has been appointed pastor of the Newfield Methodist Episcopal Church.

**Bacteriologic Laboratory Report.**—The report of the state bacteriologic laboratory of the Bureau of Health for the month of October shows that 751 specimens were examined for special diagnosis, as follows: From suspected cases of diphtheria, 334 cultures; tuberculosis sputum, 245 specimens; 154 Widal examinations were made, and 11 examinations of blood for the malarial parasite; 7 miscellaneous examinations were made.

**Free Dispensary Opened.**—A new dispensary for the free treatment of the poor of Newark was opened November 1. It is known as the Newark Polyclinic and is under the charge of the following staff: Drs. Siegfried Husserl, S. H. Gordon, Carl F. W. Lippe, E. Reissman, William D. Bleick, Theodore E. Bleick, Charles A. Rosenwasser and others. The dispensary is open to the public every afternoon and evening except Sundays and holidays.

**Contract Medical Practice.**—The Orange Practitioners' Society at its last meeting adopted the following resolution in regard to the practice of contract medicine. The resolution was incorporated as a by-law of the society.

*Resolved*, That no member of this society shall accept or maintain the position of club, society, or organization physician, or do, or agree to do, any medical or surgical work for any club, society, or organization at a less rate than the regular customary charges for like service rendered by other physicians for patients not members of such club, society or organization. Also, that in no case shall any physician agree to attend the families of the members of such club, society or organization at half price, or less price, than the usual rate.

Nothing in this resolution shall be construed as preventing any member from attending the worthy poor at a less rate, or from giving free service to those who are too poor to pay anything, or

from acting as city, county, or town physician, or health officer, or from serving under any political appointments.

Any violation of this by-law shall be considered unprofessional conduct, and shall render the member guilty thereof liable to suspension or expulsion from this society, as the society may determine.

**Society Meetings.**—At the annual meting of the East Monmouth Practitioners' Society, at Long Branch, Dr. Harry E. Shaw was elected president; Dr. James J. Reed, vice-president; Dr. Harry B. Slocum, secretary, and Dr. William K. Campbell, treasurer.——At the eighth annual meeting of the Tri-County Medical Society of Sussex, Morris, and Warren counties, which was held in Newton, October 10, the following officers were elected: President, Dr. Alfred A. Lewis, Morristown; vice-presidents, Drs. Alvah C. Van Syckle, Hackettstown, and Jackson B. Pellett, Hamburg, and treasurer, Dr. Frederick W. Flagge, Rockaway.——At the thirteenth annual meeting and dinner of the Clinical Society of the Elizabeth General Hospital, held October 16, Dr. Steven J. Keefe, Elizabeth, was elected president; Dr. James L. Perkins, Cranford, vice-president; Dr. Russell A. Shirrefs, Elizabeth, secretary, and Dr. Frederick H. Pierson, Elizabeth, treasurer.

**State Health Report.**—The number of deaths reported to the Bureau of Vital Statistics for October was 2,519, a decrease of 216 from the previous month and 719 less than during the month of August. By ages there were 631 deaths among infants under one year, 254 deaths of children over one year and under five years, and 600 deaths of persons aged 60 years and over. The number of deaths from infantile diarrhea is diminishing, the mortality from this cause for October (237) being only 45 per cent. of that for September (520). Pulmonary tuberculosis continues to maintain a high death rate (257), but a falling off is shown in the figures for pneumonia (100). The number of deaths from the group of affections classified as "diseases of the nervous system" (313) is 63 less than the average for the months of July and August. The usual annual increase in the deaths from typhoid fever has not yet appeared in the records, and the figures for July (24), August (28), September (29) and October (27) vary but little. Scarlet fever caused only 3 deaths, and only 2 were caused by measles, but the mortality from whooping cough was 42.

## NEW YORK.

### New York City.

**Conditional Gift.**—John D. Rockefeller has pledged $20,000 toward a new hospital at Tarrytown, provided $75,000 is raised by May 1.

**Milk Dealers Again Fined.**—Judge Zeller has placed the penalty for selling adulterated milk at $100 and $75 in two cases, and smaller fines were imposed in many other instances.

**Many Accidents.**—St. Gregory's Free Hospital, Gold Street, has the record number of accidents. For the week ended October 20 this hospital reported 1,330 cases of emergency surgical operations and dressings.

**Personal.**—Dr. George Franklin Shiels has received from the War Department a medal for bravery on the battlefield during the Philippine insurrection.——Dr. Francis H. Markoe arrived from Europe on the *Kaiserin Auguste Victoria*.

**Bellevue Charges Dismissed.**—At the meeting of the trustees of Bellevue and the Allied Hospitals it was decided to take no action on the charges against Dr. Armstrong which have been preferred by the 51 members of the hospital staff.

**New Hospital on Fire.**—The dormitory of the new branch of the Metropolitan Hospital, Blackwell's Island, caught fire recently. Fortunately, the building was still unoccupied and the fire was extinguished before much damage was done.

**Hospital Staff Resigns.**—The six doctors on the house staff of the German Hospital, in Brooklyn, have sent in their resignations on account of trouble with the head nurse. The trustees support the nurse and have accepted the resignations of the staff.

**Ambulance Accident.**—A Lebanon Hospital ambulance was struck by a car at One Hundred and Fifty-eighth Street and Third Avenue and all of the occupants received injuries. The motorman was arrested and held in $1,000 bail on the charge of assault.

**Bequests to Hospitals.**—Mrs. C. H. Polhemus has bequeathed $300,000 to the Polhemus Memorial Clinic of Brooklyn and smaller sums to other hospitals and asylums.——One-forty-eighth of the estate of the late Edwin Stone, which is valued at $200,000, is to go to the Seaside Hospital.

**Hospital Anniversary.**—The twenty-fifth anniversary of the Brooklyn Home for Consumptives has just been celebrated. A handsome loving cup was presented to Mrs. S. V. White, the president of the home. During the existence of this institution 5,483 patients have been cared for in the home, and 3,423 were cured or benefited.

**Professions Unite in Society.**—At a meeting of the Tri-Professional Society, composed of physicians, dentists and pharmacists of New York City, the following officers were elected: President, Dr. Samuel S. Wallian; vice-presidents, Dr. J. Monroe Lieberman, and E. H. Felix Pirkner; secretary, Dr. J. Carlisle De Vries, and treasurer, Dr. Eugene R. Eliscu.

**Bequest.**—Among the numerous charitable bequests of the late Mrs. Mary L. Cassilly is one of stock worth $153,575 to the New York Society for the Relief of the Ruptured and Crippled. After other bequests to relatives and to other charities the residuary estate of several hundred thousand dollars is to be divided equally among the Society of the Lying-in Hospital, the Home for Incurables and the Society for the Relief of the Ruptured and Crippled.

**Contagious Diseases.**—There were reported to the sanitary bureau for the week ended November 3, 387 cases of tuberculosis, with 176 deaths; 239 cases of diphtheria, with 25 deaths; 99 cases of typhoid fever, with 24 deaths; 73 cases of scarlet fever, with 5 deaths; 64 cases of measles, with 3 deaths; 41 cases of whooping cough, with 5 deaths; 6 cases of cerebro-spinal meningitis, with 11 deaths, and 48 cases of varicella, a total of 957 cases and 249 deaths.

## NORTH CAROLINA.

**Physicians as Candidates.**—It is reported that 14 of the legislative candidates in North Carolina are practitioners of medicine.

**Portrait Presented.**—The Capitol Club, Raleigh, has recently placed on its walls a life-size portrait of Dr. James McKee, superintendent of the State Hospital at Raleigh, and for 20 years president of the club.

**Physicians Robbed.**—The home of Dr. George L. Wimberly, Rocky Mount, was entered by burglars October 27 and a considerable amount of silver and other valuables stolen.——A sneak thief entered the home of Dr. William H. H. Cobb, Goldsboro, October 25, and stole $45.

**Judgment Affirmed.**—The Supreme Court has handed down a final opinion in the case of Dr. Joseph B. Matthews, Greensboro, who was convicted of killing his wife and sentenced to 20 years' penal servitude. The judgment of the lower court is affirmed. It is since reported that Dr. Matthews has committed suicide.

**Charter Amendment.**—The charter of the North Carolina Medical College has been so modified as to permit the conduct, by the corporation, of two schools, one for freshmen and sophomores, at Davidson, and one for the junior and senior classes at Charlotte. It provides also that both schools may be united at Charlotte. The capital added to the institution is $30,000.

**Personal.**—Dr. Henry H. Harris, Wake Forest, is critically ill at his home in that place.——Dr. P. L. Murphy, superintendent of the State Hospital at Morganton, and Dr. Isaac Y. Faisan, dean of the North Carolina Medical College, Charlotte, have recently undergone operations for gallstones in Baltimore.——Drs. S. Westray Battle, Asheville, and Edward C. Register, Charlotte, have returned from New York.——Dr. William S. Anderson, Wilson, sustained painful injuries in a head-end automobile collision, October 27.——Dr. Lewis M. Gaines, Wake Forest, is seriously ill with typhoid fever.

## PENNSYLVANIA.

**Staff Physicians.**—At a special meeting of the board of managers of the Chester Hospital, the following attending staff was named: Drs. Jonathan L. Forwood, Samuel R. Crothers, L. Haines, Leon Gottschalk, Daniel W. Jefferis, Ellen E. Brown, Katherine W. Ulrich, Edward W. Bing, Frederick H. Evans, William F. Lehman and D. Forest Harbridge.

**Personal.**—Dr. W. W. Richardson, newly-elected physician of the men's department of the State Hospital for the Insane, Norristown, assumed his duties November 15.——Dr. Thomas C. Rutter, Hazelton, is seriously ill at his home.——Dr. Katrina Freudenberger, Tamaqua, was thrown from her carriage November 5, and sustained a fracture of the left arm and painful contusions.

**New State Laboratories Opened.**—In a letter addressed to physicians throughout the state, Dr. Samuel G. Dixon, state commissioner of health, announces the opening of the new laboratories of the Department of Health, located in the University of Pennsylvania, Philadelphia, November 3. The opening of these laboratories ranks in importance with the establishment by the commissioner nearly a year ago of 500 stations

for the free distribution of diphtheria antitoxin to the poor throughout the state. The letter issued to the profession calls attention to the operation of the laboratory and to the facilities offered by the institution. In an accompanying pamphlet the scope of the work is set forth. The department also issues a concise pamphlet of instructions for the regulation of quarantine, isolation and disinfection in the several communicable diseases.

### Philadelphia.

**Pleased with Hospital Site.**—The finance committee of city councils has recommended that the councils make an appropriation of $261,000 for the purchase of 870 acres of farm land in Byberry as a site for the new Insane Hospital and Home for the Indigent.

**Hospital Donation Days.**—At the annual donation day of the Children's Hospital $1,500 in gifts and money were received. ——St. Luke's Hospital will hold its annual donation day December 1; the Germantown Hospital, November 22, and the Samaritan Hospital, December 1.

**Medical Society Anniversary.**—The Northern Medical Association of Philadelphia, next to the College of Physicians the oldest medical society of the city, will celebrate its sixtieth anniversary by the publication of the history of the association and by a special festival and banquet on December 5. Present and former members and other friends are cordially invited to participate.

**New Contagious Hospital Plans.**—Plans have been completed for the buildings which will comprise the administration, store, public and private wards, nurses' home, refectory, receiving and observation wards for the treatment of scarlet fever. The sum of $891,500 is available from the $16,000,000 loan for the purpose. The buildings will be arranged on the group plan, connected by open corridors.

**Hospital Society Meets.**—Fourteen hospitals were represented at the annual meeting of the Hospital Association of Philadelphia, November 2. The following officers were elected: President, John C. Brown, Episcopal; vice-president, Ellison T. Morris, Germantown Hospital; secretary and treasurer, Robert E. Hastings, University Hospital. The Hospital for the Diseases of the Stomach was admitted to membership.

**Carnegie Donation for College of Physicians.**—At the meeting of the Philadelphia County Medical Society November 7, Dr. S. Weir Mitchell announced that Andrew Carnegie will give the College of Physicians $50,000 contingent on the college raising the sum of $100,000. The money is to be used in the erection of a new college home. This is the second donation of $50,000 that Mr. Carnegie has made to the institution. It is said that the new home of the College of Physicians as now proposed will cost about $200,000.

**Health Report.**—The total number of deaths reported for the week ended November 9 was 474. This is an increase of 38 over the number reported in the preceding week and an increase of 36 over the number reported in the corresponding week of 1905. The principal causes of death were as follows: Typhoid fever, 15; measles, 4; pertussis, 3; diphtheria, 18; consumption, 56; cancer, 15; apoplexy, 17; heart disease, 58; acute respiratory disease, 63; enteritis, 28; apendicitis, 4; Bright's disease, 33; suicide, 8; accidents, 17, and marasmus, 2. There were 236 cases of contagious disease, with 35 deaths, as compared with 201 cases and 19 deaths the previous week.

**Bequests.**—By the will of the late Hannah C. Ralston, the residence at 914 Clinton Street is given to the Pennsylvania Hospital, to be used for the establishment of free beds in the hospital for poor children.——The will of the late Judith L. Frechie directs that his estate, valued at $150,000, shall be placed in trust, the income to be paid to his widow during her life. At her death the will directs the following bequests to be made: To the Jewish Hospital Association, $5,000; Jewish Maternity Association, $2,000; Jewish Emigration Society, $2,000.——By the will of the late Sarah Lewis the Children's Hospital will receive $2,000.——By the will of the late Samuel W. Goodman a contingent bequest of $2,000 is made to the Jewish Hospital Association; $1,000 to the Jewish Foster Home and Orphan Asylum, and $300 to the Jewish Maternity Hospital.

### VERMONT.

**Pardoned.**—Dr. W. R. Harkness, Montpelier, convicted of forgery in 1903, and sentenced to six years' imprisonment, has been pardoned by the governor after serving a little more than three years of his sentence.

**Typhoid Prevalent.**—Typhoid fever is reported to be prevalent in many places in the state. Rutland is reported to have 8 cases and Cuttingsville 7. The State Board of Health has forbidden the use of unboiled lake water in all towns situated on Lake Champlain.

**Commission Asks Abolition.**—The state tuberculosis commission has decided that its duties can be performed efficiently and conveniently by the State Board of Health and recommends in its report the abolition of the commission, that the work be transferred to the State Board of Health, and that a bill be passed by the legislature to appropriate $2,000 for this purpose. The State Board of Health will urge the legislature to retain the tuberculosis commission and not to turn its work over to the board.

**Personal.**—Dr. Joseph T. Peladeau has been elected health officer of Swanton, vice Dr. Frank H. Dunbar, deceased.——Dr. Samuel E. Maynard, Burlington, has been elected adjunct professor of gynecology; Drs. Aymer S. C. Hill, Winooski, and G. E. La Tour, Burlington, have been appointed clinical assistants in gynecology; Dr. Bingham H. Stone has been made adjunct professor of bacteriology, and Dr. Watson L. Wasson, Waterbury, professor of mental diseases, in the University of Vermont, Medical Department.

### VIRGINIA.

**Schools Reopen.**—The schools of Onancock, closed for two weeks on account of diphtheria, reopened October 17.

**Officers Elected.**—At a recent meeting of the Newport News Medical Society, Dr. Thomas J. Sims was elected president; Dr. Clarence L. Jones, vice-president, and Dr. Anna Moon Randolph, secretary-treasurer.

**Health Ordinance Approved.**—An ordinance creating a health department of Norfolk was passed on the first reading by the common council October 19. The department, as planned, will cost the city $1,900 more per annum than the old department, and by it the following officers are provided: Health commissioner, four assistants, an inspector of foods and milk, five sanitary inspectors and two apothecaries.

**Personal.**—Dr. A. P. Bonahan has been appointed resident physician of the Newport News City Hospital.——Dr. T. M. Marcellus, Charlottesville, who has been seriously ill at the Jefferson Hospital, Philadelphia, is reported to be improving. ——Drs. Joseph M. Burke, Petersburg, and William L. Harris, Norfolk, have been appointed members of the board of visitors of the Medical College of Virginia, Richmond.

**Health Officers' Conference.**—At the Conference of Health Officers of Virginia, held October 10, resolutions were adopted setting forth the necessity of requiring registration of vital statistics and the coöperation of the various states in establishing registration, and recommending to the legislature of Virginia that a law be enacted for a thorough and complete registration of vital statistics throughout the state, by means of standard certificates as recommended by the United States Census Bureau and the American Public Health Association, and that burial or removal permits be required for the removal or burial of the dead.

### GENERAL.

**Hospital Opposes Removal of Cuban Lepers.**—Cable reports state that San Lazaro Hospital, Cuba, in which there are several hundred lepers, probably will be removed to an island off the northern coast of Matanzas province. The removal of this hospital has long been desired, but the project has been opposed, it is stated, by the wealthy private corporation by which it is controlled.

**Yellow Fever in Cuba.**—Cases of yellow fever are still being reported from Havana, Cruces and other parts of Cuba. By telegraph we learn that on November 12 there were 7 cases in Havana and 3 in Santa Clara province. In *Public Health Reports*, Minister Morgan at Havana gives details of the precautions ordered taken by Charles E. Magoon, provisional governor, to prevent the spread of the disease.

The municipal districts of the following towns, Cruces, Ranchuelo, Palmira, and Lajas, are considered as the infected zone.

Chief inspectors will direct work at each town.

In each town adequate screened rooms will be prepared for the isolation of patients and suspects.

The passenger trains running between Cruces and the other three towns will carry physicians who will make inspections *en route*.

The local physicians appointed will keep a record of the morning and evening temperatures of the non-immune persons within the infected zone.

At a detention camp near Cruces non-immunes will be watched for five days before leaving the infected zone.

Brigades will be established for extirpation of mosquitoes and disinfection of dwellings.

**Historical Laryngologic Exhibition.**—Prof. Bernhard Fraenkel of Berlin, Germany, reached the age of 70 years November 17. Numerous proposals to celebrate the event by a banquet and by a special celebration by the Berlin Laryngological Society.

of which he is the president, were respectfully declined by him. His assistants, Prof. Edmund Meyer, Dr. Arthur Alexander, Dr. George Finder and Dr. Börger, have arranged an exhibition in honor of the event illustrative of the progress of laryngology in the past 50 years. It will be held in the Kaiserin Friedrich Haus in the Louisen Strasse in Berlin, November 17 to 30, and this, because of its value historically, the professor has accepted. In order that this exhibit might be complete, the coöperation of laryngologists throughout the civilized world was sought in the early spring of this year. At the regular meetings of the various national associations of American laryngologists it was voted to participate, and their interests were placed in the hands of Dr. Emil Mayer of New York City. As a result of the hearty coöperation, over 1,000 instruments, appliances, models used in teaching, etc., each bearing a distinctive tag with the word America stamped across the face, were sent, and the best represented country, aside from Germany, in this exhibit will be our own. Letters and cablegrams from all over the world were sent congratulating the professor, who is well known as the dean of laryngologists, for many years the head of the department of laryngology in the University of Berlin, and for 19 years, since its establishment, the editor of the *Archiv für Laryngologie*.

## CANADA.

Prevalence of **Smallpox.**—There are 75 cases of smallpox in Moncton County and vicinity, New Brunswick.

University **News.**—The work of raising a $500,000 endowment fund for Queen's University, Kingston, is proceeding apace, $250,000 having been promised.——McGill Union is the name of a new society being formed at McGill. This society promises to be the most influential of all the student societies of McGill.——The students in the various faculties of McGill University are organizing a brass band.

Inspection of **Schools in Montreal.**—Dr. J. E. Laberge, Montreal's chief medical school inspector, reports that out of 43,241 children inspected at various schools, 20,622 were found suffering from some affection more or less necessitating medical treatment. The five chief items are as follows: Inflammation of glands, 1,699; defects of vision, 1,022; decayed teeth, 9,393; enlarged tonsils, 2,107; pediculi, 1,091.

Hospital **News.**—The directors of the General Hospital, Regina, Sask., are asking the council of that city to establish a $100,000 municipal hospital.——During October 249 patients were admitted into the wards of the Montreal General Hospital; 235 were discharged, and 16 died. The outdoor consultations numbered 3,877.——The annual report of the Toronto Home for Incurables states that during the past official year the institution cared for 171 patients; 40 patients were admitted, and 28 deaths occurred. The institution now contains 139 patients.

**Personal.**—Dr. J. P. Pennyfather, Holland, Man., is establishing the Spruce Hills Sanatorium for Consumptives in the Spruce Hills district of that province.——Dr. Walter Bingham Kendall, Toronto, has succeeded in his examinations at Edinburgh and will take up postgraduate work at London and Dublin.——Dr. John MacCrae, Montreal, has passed the examinations for the degre of M.R.C.P., London.——Dr. Fred. J. Hart, Barrie, Ont., has gone to Winnipeg to practice.——Dr. A. D. McIntyre, Petrolia, Ont., has been appointed medical superintendent of the Kingston General Hospital.——Dr. Frank Allin, Parkhill, is going to China as a medical missionary.——Dr. C. O. Fairbank, Petrolia, Ont., will spend the winter at Santa Barbara, Cal.

How **Canada Is Fighting Tuberculosis.**—So far as sanatoria are concerned this is what Canada is doing in the way of combating the great white plague: Muskoka Cottage Sanatorium, Gravenhurst, 85 beds; Muskoka Free Hospital for Consumptives, Gravenhurst, 50 to 70 beds (both for incipient cases); Mountain Sanatorium, Hamilton, Ont., 20 beds; Toronto Free Hospital for Consumptives, Weston, 60 beds, advanced and far advanced cases; Galt (Ont.) Swiss Cottage Hospital for far advanced cases; Stratford, Ont., two tents for advanced cases; Lahl Ghur, Ste. Agathe des Monts, Que., for incipient cases, 21 beds; camp of Montreal League for Prevention of Tuberculosis, for poor of Montreal; Provincial Sanatorium, Kentville, N. S., 20 beds for the residents of that province; Wolfville Highlands Sanatorium, Wolfville, N. S., 10 beds, private; Calgary Sanatorium, Calgary, Alta., 16 beds, private. British Columbia is endeavoring to establish a provincial sanatorium.

New **Toronto Greek Letter Chapter.**—Alpha Omega Alpha, a medical honor society, which elects a small number of students from those standing highest in scholarships in the fourth-year class, granted a charter to students in the Medical Department of the University of Toronto, November 12. This is said to be the first college honor society to grant a charter outside of the boundaries of the United States, although one of them, the Phi Beta Kappa, has 63 chapters and has been in existence since 1776. Alpha Omega Alpha was established in 1902 and has chapters at the University of Illinois, University of Chicago, Northwestern University, Western Reserve University, Jefferson Medical College, University of Pennsylvania, Washington University, Harvard University, University of California, Johns Hopkins University and the University of Toronto. The official head of this order is Dean Winfield S. Hall of Northwestern University Medical School, Chicago; Dr. William W. Root, Parker, Ind., is secretary-treasurer.

## FOREIGN.

**Prize for Cure of Sleeping Sickness.**—Consul-General Roosevelt of Brussels reports that the King of Belgium has offered a prize of $38,600 to any person of any nationality who shall discover a cure for sleeping sickness; and also an additional sum of $57,900 for the purpose of making researches and experiments toward exterminating this plague.

**Koch's Research on Sleeping Sickness.**—Koch writes from Sese, Bugala, in Africa, to the *Deutsche med. Wochschr.*, stating that his researches on sleeping sickness occupy his time so closely that he does not have even a quarter of an hour left for any other work. The party are in excellent health notwithstanding their incessant labors.

**American Hospital in Turkey Burned.**—The American Hospital and Training School for Nurses in Constantinople was burned to the ground on the eve of its formal opening. The loss is estimated at $10,000, which is only partly covered by insurance, but the board of directors proposes to rebuild at once, and steps have been taken to raise the necessary amount.

**Prohibition of Yellow Phosphorus in Germany.**—According to the resolutions adopted by the international conference to improve the conditions of wage earners, held at Berne last spring, Germany has forbidden the manufacture, importation and sale of matches made with yellow phosphorus, the law to go into effect Jan. 1, 1907. The restriction of the sale is given a year of further delay.

**Goldberger Prize Goes to Obermayer and Pick.**—The K. K. Medical Society of Vienna has the awarding of the Goldberger prize every three years. Only one article was received in competition for it this time, and the article did not meet the conditions. The prize was, therefore, given to F. Obermayer and E. P. Pick for their research in the last three years on the specific properties of the albumin compounds.

**Organization of the Profession in Austria.**—Last month witnessed the final organization of the physicians of Austria for concerted action. The secretary of the German *Leipziger Verband* attended the assembly of delegates and gave them the benefit of his experience in organizing the physicians of Germany. He urged the collection of a fund by imposing an annual fee of $5, as in Germany, but the Austrian association feared to dampen the ardor of the newly organized profession by exacting any contributions at present.

**Trachoma in Italy.**—The eighteenth Italian congress of ophthalmology was held at Rome in October, and resolutions were adopted urging the government to take measures to eradicate or at least prevent the spread of trachoma. It is extremely prevalent in Italy, and measures were advocated somewhat similar to those now in vogue for the prophylaxis of pellagra, tuberculosis and malaria: Compulsory declaration of all cases of trachoma, both by civilian and military doctors; a certificate declaring the individual free from trachoma to be required of graduates of the schools, and of all applicants for public office; establishment of schools for children with trachoma to segregate them; and also free eye dispensaries where needed, and wards in the hospitals for patients with trachoma; establishment of postgraduate courses in treatment and prophylaxis of trachoma, and, finally, if a separate school for children with trachoma is not practicable, their segregation in special rooms or parts of school rooms.

**Measures to Improve the Lot of the Ship Doctor.**—The *Leipziger Verband* of Germany, has taken up the question of the standing and pay of medical officers on German ships, and has announced its ultimatum to the various ship-owners as follows: In regard to salary, the minimal monthly rate for oceanic voyages must be 175 marks the first year, 200 the second, and 250 the third (respectively, about $44, $50 and $62.50). For coast trips to China, for instance, the minimal monthly rate must be 250 marks for the first six months and 300 for the second (respectively, $62.50 and $75). In case

the physician is a graduate of the Hamburg School for Tropical Diseases, these terms are to be increased by $6.25 and $7.50. The customary "wine allowance" of 2 marks or 50 cents a day is to be paid in cash. The idea that a ship doctor should not retain his position for more than three years is discountenanced, and his salary should be increased with length of service. He is entitled to demand payment according to accepted rates for medical attendance on first-class cabin passengers. The ship-owners are not to advertise or proclaim in placards or otherwise that passengers on the ship are entitled to free medical attendance, as this is liable to lead to excessive demands for the services of the physician and also to detract from the dignity of his position. He should rank as one of the upper officers although not wearing the insignia of his rank unless required to dress in uniform. In case this is required, the price of the uniform is to be allowed by the ship-owners. Otherwise the ship doctor should add merely the velvet collar and Esculapius badge or the service cap. The captain has no right to forbid the ship doctor from going ashore in a foreign harbor, but the physician must notify the captain or his representative when he leaves the ship, and he goes ashore entirely on his own responsibility. The ship doctor is to be provided with a cabin suitable in location, size and furnishings for his position as one of the upper officers. Another place must be provided elsewhere for drugs and to serve as the office for the physician. The supply of drugs should not be kept in the doctor's cabin for hygienic and other reasons. The *Leipziger Verband* has presented this ultimatum after long deliberation, and intends to insist on its adoption by ship-owners, with financial aid for physicians who lose their position on account of these new stipulations. There has been no uniformity hitherto.

**A South American Hospital.**—Mr. Alfred Cartwright, British consul in Ecuador, in his annual report, alludes in terms of high praise to the new general hospital of Guayaquil, which, he says, stands in the first rank among the hospitals of South America. Special attention has been devoted to provide plentiful accommodation, abundant light, good ventilation, and efficient sewerage—requisites most necessary in a country where malarial fevers and tuberculosis are so rife. The hospital is situated on the slope of the hills to the north of the city, at an elevation of 26 feet above high-water mark, and is connected with the main town by tramway and telephone. It occupies an area of 15 acres and has a frontage of nearly 650 feet facing and overlooking the city. It consists of a residence for the Sisters of Mercy, chaplain and others, at the front; behind are six two-story medical wards, connected by covered corridors, but isolated one from another by gardens 40 feet wide. Each building is divided into suitable wards, with accommodation for 70 medical patients. At a level of 16 feet above the medical wards, with intermediate gardens, there are two surgical wards, with all the requisites for 80 patients, large operating rooms, a central chapel, removed from the main buildings, and a large and modern cooking department. Adjacent are a steam laundry, disinfecting rooms, linen stores, stabling, mortuary, etc. The hospital can accommodate 500 patients. Each ward has been provided with balconies and benches for those who are convalescent, with sunny exposures, baths and closets, as well as lavatories and other conveniences. The floor space allowed to each bed is 108 square feet and the cubical capacity is 1,765 cubic feet in the medical and 2,470 in the surgical wards. Perfect surface drainage has been formed, as well as an elaborate system of underground sewerage. An ample water supply has been assured through steam pumps for elevating the city supply to a large reservoir built into the hills behind the wards. The exposure of the hospital being to the south it enjoys a plentiful amount of sunshine. The cost of this hospital has been £32,500 ($162,500). There is a second hospital called the Central, which was a gift to the city, at a cost of £6,500 ($32,500), by a British merchant, Mr. Alexander Mann, a native of Nairn, Scotland. On an average in the two hospitals 7,000 indoor patients are attended annually. The average yearly expenditure on both establishments is about £8,000 ($40,000), 80 per cent. of which is provided by the municipality and 20 per cent. by the government.

## LONDON LETTER.

*(From Our Regular Correspondent.)*

LONDON, Oct. 22, 1906.

### Food Inspection.

Since the Chicago revelations the subject of food inspection has received considerable attention from the public health authorities. At the annual meeting of the Society of Medical Officers of Health, Dr. D. S. Davies read an important paper on "The Administrative Control of Food." He indicated the difficulties of carrying out a proper inspection of meat. After seizure careful examination should be made by the health officer and full notes taken of the pathologic condition of the meat. Before any further proceedings are taken the vendor should have ample means of examination. Private slaughter houses should be gradually abolished and there should be a rigid system of marking and stamping all inspected meat, home and foreign. Foreign meat should be required to comply absolutely with English standards and there should be some guarantee that it has passed a proper inspection. More adequate inspection of tinned meats and similar foods is urgently needed. There is evidence of much unwholesome preparation by no means confined to America. Even in London he has found tuberculous pus in widely advertised sausages, diseased horse flesh in potted meat and decomposing animal matter in potted salmon and shrimp. The only way of effective administrative control of the preparation of these and other foods is inspection at the time of manufacture of their constituents and inspection of the premises. There should be a distinctive inspection mark. Name and date of canning should be stamped on every tin. The regulations necessary for the protection of the consumer will require fresh legislation. It is astonishing, he said, how little is done to protect the milk consumer, and that the dairy industry should be allowed to pass out of our hands for the lack of a little coöperation and common-sense administrative control, such as is exercised in Denmark.

## VIENNA LETTER.

*(From Our Regular Correspondent.)*

VIENNA, Oct. 19, 1906.

### Remarkable Accident in a Hospital Ward.

During a suit for damages brought by the friends of a patient who died recently in one of our hospitals, the facts of a very strange case of negligence came out. As the number of doctors applying for the unpaid position of "juniors" is constantly and swiftly declining, the few paid medical officers of the ward are over-burdened, and gladly accept the aid of medical students to relieve them of some of their work. Thus, in a certain ward of the general hospital, it happened that a patient with a supposed carcinoma of the stomach, in whom that organ had to be rinsed out after a test meal, was given in charge of a medical student. The student did not succeed in his effort, as by some misadventure, the balloon of the pump had been fixed with the valve the wrong way out, so that instead of pumping fluid out of the stomach air was being forced into it, until suddenly there was a jerk and the patient collapsed. When the alarm was raised, the condition was immediately recognized and an operation was performed, but the patient died during the laparotomy. At the postmortem examination it was found that the friable walls of the stomach, being infiltrated by cancerous masses, had burst under the pressure of the distension from the air pumped in. The case is still on trial, but the fact that a subordinate officer, or rather a guest in the ward, was allowed to undertake such an important procedure as the pumping out of a diseased stomach, has excited much comment, and will undoubtedly have the effect of stopping the admission of non-qualified students to the ward as assistants. Consequently, as physicians are urgently required for the work, they will have to be paid.

### Successful Anti-Malarial Campaign in the South of Austria.

The Austria coast line on the Adriatic has from time immemorial been the seat of malaria, and the indolent inhabitants take little or no precaution to check the spread of the disease. Lately the government officials have found it necessary to take stringent measures against it, because the majority of Austria's navy recruits come from these regions. An imperial commission, consisting of doctors, government and navy officers, and the chiefs of the board of health was formed some two years ago, and they set to work to eradicate the hunting grounds of the anopheles. Marshy, swampy tracts of land were partly drained, partly covered with oil, and set afire. Ample provisions of cinchona bark and quinin were distributed among the "mayors" of the villages, and the district doctors were required to deal vigorously with all cases of malaria. At Pola, the chief naval port, $25,000 has been spent for dikes and for draining and leveling the marshes. The success achieved by such measures was soon visible, as the number of fresh cases of malaria declined 62 per cent. in two years. Extensive action on the same lines has been undertaken by the governor of Dalmatia, the country of the most southern frontier of Austria, and his report of the campaign is equally encouraging. In Hungary the same measures have been adopted recently, so that uniform action is now under way in all the malarial regions of the empire, with education of the population, distribution of quinin, and measures to eradicate mosquitoes.

### Fighting Quackery.

A movement has been started by a few practitioners to induce the profession to refrain from prescribing ready-made preparations of the type of proprietary medicines, also of such remedies as are advertised widely in the lay press. The chief endeavor of this small group of energetic, level-headed men is directed, however, to secure the enforcement of the so-called "Kurpfuscher" paragraph by the police and local sanitary boards. Advertising by inventors of electric life restorers, hair preservers and electric spectacles for the deaf has been so sharp and unchecked lately that the efforts of the physicians have been approved by many newspapers, who make it now a point of honor not to accept such advertisements. Much harm has been done not only to the public, but also to the profession, by the increase of "naturopaths" and "water cures." This fact itself suggests that the public actually demands a greater consideration of mechanical and physical modes of treatment, not restriction solely to drugs and compounds of a chemical nature. A suggestion has been thrown out that all contracts between doctors and the owners of hydropathic establishments should be revised by a body of competent men to see if these contracts do not conflict with the recognized medical ethics and the just demand of the public to be treated truthfully, not by charlatanism.

### Investigation as to the Cause of Increasing Myopia.

Four thousand pairs of eyes, belonging to school children from 6 to 16 years of age, have recently been examined by order of the board of health, with a view to ascertain whether myopia is increased by the stress required by the present system of education in the public schools. The increase in nearsightedness was found proportional to the size of the town and the amount of study required. The prevalent degrees of myopia were from 1 to 4 D., astigmatism being present in about 12 per cent. Excessive myopia was always congenital among children; in only one case was it the result of an injury to the cornea. (This case has been reported elsewhere by an ophthalmologist.) Spectacles were not generally worn by those children who needed them, partly from neglect, partly from unwillingness on the part of the parents. School authorities will in future be empowered to compel parents to consent to the wearing of eyeglasses in such cases. The report to the board of health sums the investigation up in the words: "Better care for the eyes of the children may prevent the development of myopia already present, but the chief point is to prevent myopia altogether. Regular examinations by qualified ophthalmologists are *conditio sine qua non*. The print must be uniform, alternating large and small types on the same line should be avoided. Due consideration should be paid to the nature and source of supply of artificial light in school rooms, as in our climate the months from October to February require artificial light after 3 p. m.

## *Pharmacology*

### The Sins of Physicians.

The *California State Journal of Medicine* says:

"The present trend of the nostrum agitation has evoked much discussion of the sins of the pharmacist. Our *Journal* has for some few years taken a slightly different attitude, and while recognizing the many and variegated sins of the pharmacist, has also called attention to a few of the sins of the physician, which may have been, through precept or example, or even more actively, responsible, in some measure, for the former's sins.

"Certainly, if the physician were sufficiently educated in his profession, he would ignore the therapeutic education so gratuitously handed out to him by the agent of the nostrum maker, and he would confine his prescribing to those remedies about which facts, rather than fiction, are known. It is not the druggist who rushes to the jobber for a stock of some new-fangled stuff—let us say anasarcin, the 'cure for dropsy'—and then hastens to beg the physician to prescribe it. Rather it is with a feeling of dread that the pharmacist hears of some such preparation, originating in a commercial mind and foisted on a credulous profession for the enrichment of the maker and not for the benefit of a suffering public and profession. He knows that soon the lying 'detail man' will be about among the physicians, and then some of them, all too ignorant of what they should know, will begin to prescribe it and he will have to invest more money, uselessly, and cumber his shelves with one more of the horde of rank nostrums.

"And just now the country seems to be troubled by a pest of new 'cure alls.' They have appeared like grasshoppers in Kansas—from the Lord only knows where! Beware of the new nostrum; beware of the detail man who has something nice and new and curing. Ask him what the Council on Pharmacy and Chemistry has done about his nice new preparation, and if you will take the time, write to the Council and ask them about it. Your patient has a right to demand that you yourself shall know what you are giving him, and this you can not know if you depend on the statements of the manufacturer or his smooth-tongued agent. Nine-tenths of the nostrum business is deceit, and the other tenth advertising. And we are beginning to learn that deceit may exist in high places, and that manufacturers whom we have previously regarded as above reproach, may do strange things.

"Our only hope is in the Council on Pharmacy and Chemistry of the American Medical Association, and in THE JOURNAL of the Association, which is to undertake to tell us, from time to time, still more of the truth about things pharmaceutical. Do not allow anything to blind you to the enormous value of this Council and its work. Do not allow the inspired criticism of the 'published for profit' medical (?) journals to make you believe that there is trouble in the Association or that the work of its Council is not honest. Come back out of the nostrum mire and try to clean up."

### The Interest of the Public in Medication.

"Public interest in the drug question," remarks *American Medicine*, "has been aroused by the present warfare against the nostrum evil, but the comments of the lay press leave considerable doubt as to whether this interest is working for good or evil to the cause of scientific therapy. When laymen heard that 44 per cent. of Boston prescriptions call for 'patent medicines,' the composition of which is unknown to the doctor, they immediately jumped to the conclusion that a sick man might just as well trust to the advertisements as to the doctor and save the latter's fee. Of course, it is difficult to convince them that no sick man can diagnose his own case, as judgment is warped by every illness, but we can reach those needing help if they are convinced that we know what we are prescribing and that we prescribe for a definite purpose. The accusation, made at one of the recent Boston meetings, that we are often densely ignorant of what we advise our patients to take, is a most serious charge. If true, there is need of considerable house-cleaning in our medical store-house. The paucity of specifics is not a blot on medicine, but it should be widely advertised as a desirable fact for laymen to know. Oliver Wendell Holmes said that if we would keep five or six drugs and cast the rest into the ocean, 'it would be better for mankind—but bad for the fishes.' Since he spoke we have learned of a half dozen or so more, and have succeeded in making some palatable mixtures of others which have proved their usefulness, but the opinion has become fixed in the lay mind that there is a separate drug for each disease and each symptom. The sick demand drugs and will dismiss the physician who does not prescribe them—a human trait about as old as man himself. Is the physician to go with the tide or try to check it? Surely good can come from this side of the present agitation, and if every physician prescribes only that of which he knows the composition, and gives it for its known effect, there can be no blots on our methods. Let the public be freed of their false opinions and the self-prescribing nostrum evil will correct itself."

### Tricks of the Nostrum Men.

Under the above title the *Druggists' Circular*, November, 1906, discusses editorially the methods employed by manufacturers, and comments on the fact that proprietary manufacturers are quick to take advantage of anything which may be

used as an advertisement of their goods. The editorial continues:

"Let something arise which may be construed as a reflection on the quality of a druggist's own output, or the probity or ability of a physician who prescribes Pharmacopeial, National Formulary or other officinal preparations, and the nostrum makers may be depended on to twist it into the semblance of an argument in favor of the use of their stuff. They do not, however, emphasize the fact that preparations with secret formulas are automatically protected against a charge of impurity or of being below standard, as 'purity' is an elastic term, and until there is a standard nothing can be below it.

"The proprietor of a secret remedy may change the formula of his nostrum whenever he chooses; he may substitute a cheaper drug for a high-priced one whenever the desire for more profits prompts him so to do; he may convert a 'catarrh' remedy into a cathartic, or tonic bitters into an emetic, and is not amenable to any man or any law for the misbranding—simply because the standard for purity and strength of his article resides only in his own mind, and may shift every time that mind changes.

"These suppositititious variations in formulas are by no means purely hypothetical, as instances in which they have been made are not wanting. On the other hand, there is a fixed legal standard for the druggist's goods, and when they fail to measure up to this standard, boards of pharmacy, boards of health, and the people through their prosecuting officials may, and more and more do, call the druggist to account for the shortcoming. But the man who takes a proprietary medicine to-day, and goes back for another dose of the same to-morrow, may get an entirely different thing, and either is kept in ignorance of this fact or has no recourse on any one when he discovers the deception that has been practiced on him.

"It is our duty to remind the druggist of these things, and it is the duty of the druggist to pass the reminder on to the physicians and to the public."

### Mixtures Exploited as Synthetics.

J. O. Schlotterbeck, Ann Arbor, in the *Journal of the Michigan State Medical Society*, June, 1906, calls attention to mixtures that are exploited as syntheties by some of our manufacturers, who have heretofore been considered reputable. He said that he had in mind an external preparation advertised as a definite synthetic compound of a half dozen or more antiseptics and germicides and claimed to liberate at least four powerful antiseptics in a nascent state, when brought in contact with serous fluids. The claims of this preparation, he stated, are preposterous and fraudulent on their very face, for such a combination of "shot in one load" is an absolute impossibility and contrary to all principles of chemistry.

### St. Louis Pharmacists Appeal to the Medical Profession.

A most timely appeal has been made by the St. Louis Retail Druggists' Association to the physicians of that city presenting the claims of the new Pharmacopeia and new National Formulary and suggesting that physicians give pharmacists opportunity to use professional skill in the preparation of medicines by prescribing the preparations of the Pharmacopeia instead of proprietary mixtures.

## Correspondence

### What Is General Suppurative Peritonitis?

COLUMBUS, OHIO, Oct. 27, 1906.

*To the Editor:*—In discussing any subject it is very essential that those who take part in the discussion shall agree on their definitions of the terms that are used. In this part of the country surgeons have been in the habit, I think, of limiting the diagnosis of "general" suppurative peritonitis to cases in which the entire peritoneum from the floor of the pelvis to the diaphragm is involved in the suppurative process. If the suppurative process is very limited, we have called the case one of "local" peritonitis; if the process is more widely diffused we call it "diffuse" peritonitis; but we do not use the word general unless the entire peritoneum is involved. In cases of general purulent peritonitis the process has been going on as a rule for five or six days, the abdomen is distended, peristalsis has ceased, the Hippocratic countenance is marked, the pulse is usually though not invariably rapid, while the temperature may vary from high to subnormal. I have never seen recovery occur in one of these cases, and I never expect to. When, therefore, I saw reports of cases of "general suppurative peritonitis" in which patients had recovered under removal of the perforated appendix by short incision and stab drainage of the pelvis, with the patient in Fowler's position, with or without rectal injections of saline solutions, I felt that I had not been doing my own patients full justice, and accordingly in two or three cases of the character described above I resorted to this treatment, but without the slightest possible benefit.

At the meeting of the American Association of Obstetricians and Gynecologists in Cincinnati, last September, Dr. Murphy of Chicago (THE JOURNAL A. M. A., Oct. 13, 1906, p. 1219) read a paper reporting 36 cases of "general suppurative peritonitis from perforation, with one death." In the discussion which followed, however, in response to a direct question, and later more fully in private conversation, he stated that he did not mean by this title cases such as those described above, but that he included under this title all cases of peritonitis resulting from perforation, no matter whether the perforation had taken place an hour beforehand or several days. Patients such as those mentioned he said were "dead already," and nothing could be done for their relief.

With this understanding, therefore, of what is meant by certain writers when they report cases of "general suppurative peritonitis" terminating in recovery, I think we can all look back over our cases of local peritonitis, though without protecting adhesions, in which we have had prompt recovery following operation and drainage, and in which we have not at any time felt that we had accomplished anything so very wonderful.

I think the Fowler position very important in mechanically limiting the diffusion of the inflammatory process, but the main thing is prompt operation with removal of the point of leakage and drainage. The rectal use of normal salt solution may be of a little advantage in washing out the blood, but I think this is of minor importance, while I do not think the "antistreptolytic serum" of any proven value whatever in these cases.

My object in writing, however, is purely to correct the misunderstanding which to my knowledge a good many surgeons have had of what some writers call "general suppurative peritonitis."

J. F. BALDWIN.

### Misquotations of Dr. Sajous.

PHILADELPHIA, Nov. 3, 1906.

*To the Editor:*—Two letters received from New York, one from San Francisco, and a clipping from a newspaper, the New York *Journal*, sent by a friend, indicate that an article I read by invitation before the Medical Association of the Greater City of New York, Oct. 15, 1906, has formed the basis of sensational articles in the lay press. The gross misstatements the clipping I hold contains, e. g., that I have discovered "adrenalin" (sic); that I kept "life in the body of a dog for ten hours after its head had been removed"—a distorted reference to Dr. Crile's experiments which I quote—; the use of adrenalin to "keep life" until "water can be expelled from the lungs,"— a fact "absolutely established by experiments," but to which I do not even refer, etc.,—were such, I thought, as to protect me against imputations on the part of our profession, as similar exaggeration had protected me once before. I am sorry to state, however, that the *Medical Standard* of Chicago, in its November issue, without even mentioning the source of information, uses the misstatements of newspapers to cast reflections on my mode of work.

In the first place, I wish emphatically to disclaim any connection whatever, direct or indirect, with the publicity given the paper in question. My position in such matters is now

as it has always been, to avoid such publicity. In the second place, my mode of work differs only from that of other investigators in that I do not content myself with two or three experiments to reach a conclusion. I hold that a broad view of all questions, utilizing factors from all directions and branches of science concomitantly, will alone give us a correct estimate of the functions of the organism, and therefore of its diseases, and raise our therapeutic methods to a standard compatible with our hopes.

I avail myself of the large circulation of THE JOURNAL to request the profession to consider as my statements only those published in the medical press.

C. E. DE M. SAJOUS.

### The Harvard Medical School Buildings.

BOSTON, Nov. 4, 1906.

*To the Editor:*—In the last paragraph of the editorial on the Harvard Medical School Buildings in THE JOURNAL, Oct. 6, 1906, page 1100, it is implied that the clinical facilities of the school are inadequate and an impression may thus be made which does not coincide with the facts. Really, to the best of my knowledge and belief, the present clinical facilities are unequalled in this country. The fact that the hospitals, great and small, in which clinical teaching is now carried on, are at some distance from the new buildings is of less consequence, inasmuch as bedside work begins the second half of the second year, occupying only the mornings in that year, while practically the whole of the third and fourth years are passed at the hospitals. Thus twenty minutes by car or thirty minutes on foot are practically no disadvantage. Within the next few years a general hospital of 250 beds, the Children's Hospital of over 100 beds and the Infants' Hospital will be in operation on land immediately contiguous to the school buildings. The new clinical facilities thus provided will not replace but supplement those now enjoyed by the school. We shall never consider any part of our work or facilities, therefore, "satisfactory" so long as we can see a chance for betterment. FREDERICK C. SHATTUCK.

[The part of the editorial to which Professor Shattuck objects was influenced by the article by Dr. Mallory on "The Present Needs of the Harvard Medical School," published in *Science*, September 14.—ED.]

## Association News

### Senn Medal Essay Contest.

The Committee on the Senn Medal announces that a gold medal of suitable design is to be conferred on the member of the American Medical Association who shall present the best essay on some surgical subject. The award will be made under the following conditions:

(a) The name of the author of each competing essay must be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device is to be read at the session at which the award is made, and the name of the successful author announced.

(b) All successful essays become the property of the Association.

(c) The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction at a general meeting of the Association.

(d) The competition is to be confined to those who, at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the American Medical Association.

(e) The competition for the medal will be closed on, and no essays received after, April 1, 1907.

Communications may be addressed to any member of the committee, which consists of the following: A. F. Jonas, chairman, 18 Continental Block, Omaha; J. F. Binnie, 302 Argyle Building, Kansas City, Mo.; Harry M. Sherman, 2210 Jackson Street, San Francisco.

## Book Notices

NURSING IN THE ACUTE INFECTIOUS FEVERS. By G. P. Paul, M.D., Assistant Visiting Physician and Adjunct Radiographer to the Samaritan Hospital at Troy, New York. Illustrated. Cloth. Pp. 200. Price, $1.00 net. Philadelphia: W. B. Saunders Co., 1906.

This book is intended for nurses; treatment by drugs, therefore, and physical signs and symptoms are little discussed. The book is divided into three parts: 1, Fever in general; 2, acute infectious fevers, with their cause, signs, symptoms, course, prognosis, care and management; 3, practical procedures. Chapter II, on the "Hygiene of the Sick Room," is good. The author emphasizes the necessity for quiet. Chapter III on diet is also good. While the treatment by drugs is not altogether eliminated, it is noticeably less than in some similar works. For example, in the treatment of hemorrhage, instead of enumerating drugs to be administered or heroic methods of treatment which could only be carried out by the physician. Paul states how and where to apply an ice-bag and what to have in readiness for the physician. One chapter deals with the symptoms of poisoning from various drugs and the antidotes.

There is also given in tabular form a list of drugs the physiologic action of which the nurse should understand. On the whole, the book is to be commended.

THE MEDICAL DIRECTORY OF NEW YORK, NEW JERSEY AND CONNECTICUT. Published by the Medical Society of the State of New York. Vol. VIII. Cloth. Pp. 982. 1906.

This directory, formerly published by the New York State Medical Association, has been continued by the reorganized state society. In this eighth edition appear the names of 15,531 physicians, of whom 11,976 are in New York State, 2,276 in New Jersey and 1,279 in Connecticut. In greater New York there are registered 6,034 physicians. Under each name appears the residence number, office hours, telephone number, medical college and year of graduation, membership in medical societies and medical appointments held. The directory matter for New York State is divided into three portions, viz., Manhattan and the Bronx, Brooklyn, and the state at large. These three sections are distinguished by the use of different colored papers, making reference easy. Preceding the sections on New York City and Brooklyn appear street lists of physicians, arranged in order under the streets, which are alphabetically arranged. Following the matter for the state of New York is a list of physicians arranged alphabetically by name, which renders reference to any particular name easy. The directory matter for Connecticut and New Jersey is arranged alphabetically by postoffices, followed by an alphabetical list of physicians by names. This edition is fully up to the standard of preceding ones and forms a volume of about 900 pages and of convenient size. Beside the directory matter proper, much additional matter is included, such as lists of state, county, district and local societies, hospitals and dispensaries, benevolent institutions, medical libraries and official boards of each state.

The amount of advertising carried is not large, amounting to about 55 pages. The great majority of advertisements are entirely unobjectionable, but a few might with propriety be omitted from future editions. On the whole, the eighth edition is a credit to the Medical Society of the State of New York.

## Marriages

W. L. ALLEE, M.D., to Miss Maud Franklin, both of Eldon, Mo., October 27.

HERBERT E. DOTY, M.D., to Miss Cora Bagby, both of Kansas City, Kan., recently.

CHARLES C. MORISON, M.D., to Miss Nancy Howard, at Parker, S. D., November 6.

WILLIAM WINTON KEMPER, M.D., to Miss Helen Garner, both of Muncie, Ind., October 18.

HENRY CHARLES JOHANNES, M.D., to Miss Ada May Summers, both of Chicago, recently.

SAMUEL SEARLEY HOULTON, M.D., Baltimore, to Miss Mary Clark, at Baltimore, October 10.

HERBERT C. DEANE, M.D., to Miss Retta A. Wilson, both of Salt Lake City, Utah, October 29.

JESSE R. PRITCHARD, M.D., to Miss Martha Leigh Penniman, both of Fort Scott, Kan., October 3.

CHARLES J. WIVELL, M.D., Wilkesbarre, Pa., to Miss Alice Moran, at Aldenville, Pa., October 30.

GEORGE F. DOYLE, M.D., Philadelphia, to Miss Anna Laura Drake of Mount Sterling, Ky., recently.

EDWARD A. GLASGOW, M.D., to Miss Mildred Daise Mattinly, both of Mulberry Grove, Ill., October 31.

AZARIAH WORTHINGTON PARSONS, M.D., Mexico City, Mex., to Miss Ethel E. Shaman of Ohio, July 15.

WILLIAM J. MARTIN, M.D., Kokomo, Ind., to Miss Nina Leona Bolt of Red Oak, Iowa, October 23.

LOUIS J. KEHRES, M.D., Cleveland, Ohio, to Miss Elizabeth Anna Thomas of Cuyahoga Falls, Ohio, October 31.

CHARLES CLINTON OGLE, M.D., Chambersburg, Pa., to Miss Ethel Dawn Smiley of Shippensburg, Pa., October 30.

ARCHIBALD M. BURT, M.D., to Miss Katherine D. Wheat, both of Wheeling, W. Va., at St. Clairsville, Ohio, October 25.

WILLIAM F. WITTWER, M.D., Los Lunas, N. M., to Miss Anna C. Nowlin of Montgomery City, Mo., at Albuquerque, N. M., November 7.

## Deaths

**Isaac M. Rosenthal, M.D.** Medical Department of Western Reserve University, Medical Department of Adelbert College, of the Western Reserve University, Cleveland, 1876; a member of the American Medical Association; a member and formerly vice-president of the Indiana State Medical Society; a member of the Maumee Valley Medical Society; one of the most prominent citizens and practitioners of Fort Wayne, Ind.; first president of the Allen County Medical Society; for eight years president of the Fort Wayne board of health, and surgeon to St. Joseph Hospital since its establishment, died October 29 at his home in Fort Wayne, from meningitis following middle-ear disease, after an illness of several weeks, aged 74.

**Robert T. Davis, M.D.** Harvard University Medical School, Boston, 1847; a veteran of the Republican party of Massachusetts, and representative from the Fall River district in the Forty-eighth, Forty-ninth and Fiftieth congresses; formerly mayor of Fall River; since 1847 a member and councilor of the Massachusetts society; for 56 years a member of the Bristol South Medical Society and for several years its president; state senator in 1856 and 1860; a member of the first Massachusetts Board of Charities and of the State Board of Health, died at his home in Fall River, October 29, after a short illness, aged 83.

**Edgar H. Nichols, M.D.** Savannah, (Ga.) Medical College, 1881; acting assistant surgeon United States Marine-Hospital Service, 1880-1884; honorary physician to the consulate of Spain for 15 years; formerly assistant inspector of the National Board of Health; a member of the American Public Health Association, Medical Association of Georgia, Georgia Medical Society, and Savannah Medical Society, died at the Savannah Yacht Club, Thunderbolt, from the effects of a self-inflicted gunshot wound, November 5.

**Carl Weschcke, M.D.** University of Greifswald, Germany, 1856; a surgeon in the Prussian army for one year; surgeon in the United States Army for several years; a charter member of the Minnesota Medical Association; for four terms a member of the council of New Ulm, and from 1878 to 1881, from 1886 to 1889 and from 1896 to 1904 mayor of the city; who did valuable service during an Indian outbreak in 1862, died at his home in New Ulm, October 20, from chronic nephritis, after a long illness, aged 75.

**David Bell Birney, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1885; a member of the American Medical Association; one of the consulting surgeons of the University Hospital; from 1888 to 1893 vaccine physician of Philadelphia and at one time resident physician of the Presbyterian Hospital, died at his home in Philadelphia, November 2, from injuries received on October 13 in a collision between his carriage and a trolley car, aged 46.

**N. A. Pratt, M.D.** Savannah Medical College, Savannah, Ga., 1859; an eminent scientist of Atlanta; professor of chemistry in Savannah Medical College from 1857 to 1861; a Confederate veteran; professor of geology and chemistry in Oglethorpe University, 1861; and geologist and chemist for the Confederate government from 1862 to 1865, was struck by a train when walking on the tracks of the Georgia Railroad at Decatur, Ga., and instantly killed, October 31, aged 73.

**Laurin Williams Reed, M.D.** Medical Department of the Columbian University, Washington, 1892; a member of the Illinois State Medical Society and Vermilion County and Champaign County medical societies; a practitioner of De Land, Ill., for ten years and for a few months in Fairmount, Ill., died at his home in Bridgeport, Conn., October 9, eight days after being attacked with appendicitis, and three days after operation, from pulmonary embolism, aged 36.

**Sylvester L. Nidelet, M.D.** Medical Department of the St. Louis University, St. Louis, Mo., 1852; for several years a surgeon in the United States Army; from 1882 to 1886 coroner of St. Louis; Indian agent for the Sioux for one year, and after the war chief surgeon at the Whetstone reservation, died at his home in St. Louis, from pneumonia, October 30, aged 77.

**William T. Collins, M.D.** University of Georgetown, Medical Department, Washington, D. C., 1865; a veteran of the Civil War; president of the first board of regents of the University of North Dakota, Grand Forks, and for one or two sessions a member of the territorial legislature of North Dakota, died recently at his home in Santa Monica, Cal., aged 68.

**Henry Marshall Bourne, M.D.** New York University, New York City, 1875; president of the medical board of Corning Hospital; member of the Steuben County Medical Society, and Medical Society of the State of New York, died at his home in Corning, N. Y., from chronic nephritis, October 24, aged 54.

**Edward Linden Naret, M.D.** Maryland Medical College, Baltimore, 1903; a member of the American Medical Association, died at his home in Morgantown, W. Va., from pneumonia which followed two weeks after an attack of appendicitis, November 1, after an illness of two days, aged 41.

**George A. Cable, M.D.** University of Wooster Medical College, Cleveland, Ohio, 1873; a practitioner and clergyman of Minnesota for many years; who did effective work in California during the prevalence of bubonic plague, died at the home of his son-in-law in Minneapolis, October 30, aged 60.

**Frederick C. Bucher, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1895; formerly a practitioner of Columbia, Pa., died at the home of his father-in-law in Mount Joy, Pa., after an illness of several months, October 30, from pachymeningitis, aged 38.

**Rinaldo P. Hazzard, M.D.** Vanderbilt University Medical Department, Nashville, Tenn., 1886; formerly a practitioner of Zenas, Edinburgh, Ind., and of Louisville, Ky., died at St. Anthony's Hospital, Louisville, October 18, after a long illness, from senile debility, aged 78.

**Orsman S. Kenyon, M.D.** Eclectic Medical College of the City of New York, 1879; postmaster of Taberg for eight years, and highway commissioner and town clerk; for 38 years a practitioner of Taberg, N. Y., died at his home in that place after an illness of five weeks, aged 70.

**W. M. Marshall Thompson, M.D.** Tulane University of Louisiana Medical Department, New Orleans, 1872; for many years coroner of St. Landry Parish, La.; a member of the city council of Opelousas, died at his home in that city, October 28, after a long illness, aged 56.

**John W. Farmer, M.D.** College of Physicians and Surgeons, Baltimore, 1868; one of the oldest practitioners of Radford, Va., died in the hospital in that place, August 25, a few hours after being injured by the overturning of a wagonload of lumber.

**Levinus W. Cornwell, M.D.** Castleton (Vt.) Medical College, 1846; formerly a surgeon in the army, and for 38 years a leading practitioner of Alden, N. Y., died at his home in that city, October 22, after an invalidism of 10 years, aged 84.

**Byron W. Hinds, M.D.** University of Nashville Medical Department, 1866; county commissioner of Madison County, Ala.; a Confederate veteran, died at his home in New Hope, August 21, after an illness of several weeks, aged 71.

**Elliot H. Wheeler, M.D.** Missouri Medical College, St. Louis, 1880; a veteran of the Civil War and for many years a practitioner of Southern Illinois, died suddenly near Murphysboro, Ill., October 29, from heart disease, aged 66.

**John Theodore Heard, M.D.** Harvard University Medical School, Boston, 1859; of Boston; a surgeon throughout the

Civil War, died at his summer home in Magnolia, Mass., September 2, from organic heart disease, aged 70.

Irving **Washington Hewit, M.D.** Medical College of Indiana, Indianapolis, 1883; formerly a practitioner of Bellwood, Neb., died at his home in Spokane, Wash., August 21, from chronic nephritis, after a long illness, aged 52.

Thomas **Palmer Jerman, M.D.** Medical College of the State of South Carolina, Charleston, 1849; for many years a practitioner of Ridgeway, N. C., died at the home of his son in Raleigh, N. C., October 22, aged 80.

M. G. **Hatcher, M.D.** University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1864; formerly of St. Louis, died at Ridgeley Farm, near Dorsey, Ill., from dropsy, after a long illness, October 12.

Archibald **Fraser, M.D.** New York Homeopathic College and Hospital, New York City, 1870, died at his home in Ypsilanti, Mich., from typhoid fever, October 27, after an illness of two months, aged 62.

Daniel **W. Overholt, M.D.** Medical Department of the University of Iowa at Keokuk, 1867, died suddenly from cerebral hemorrhage at his home in Columbus Junction, Iowa, October 28, aged 68.

Annie **W. Martin, M.D.** Hygeio-Therapeutic College of New York, New York City, 1865, died at her home in Elgin, Ill., October 24, from pneumonia, after an illness of six days, aged 79.

Jeremiah **P. Smith, M.D.** Jefferson Medical College, Philadelphia, 1887, died at his home in Linglestown, Pa., November 1, after an illness of two days, from cerebral hemorrhage, aged 38.

Thomas **E. Cone, M.D.** New York University, New York City, 1873; formerly a practitioner of Brooklyn, died from tuberculosis in Bellevue Hospital, New York, October 18, aged 53.

Julian **H. Abbitt, M.D.** College of Physicians and Surgeons, Baltimore, 1892, died suddenly from acute gastritis, at his home in West Appomattox, Va., November 1, aged about 38.

Howard **M. Griffee, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1875, died at his home in Taylorsville, Pa., October 28, after a long illness, aged 56.

Harlan **C. Baker, M.D.** Starling Medical College, Columbus, Ohio, 1866, died at his home in New Salem, Ohio, October 29, from cerebral hemorrhage, after a brief illness, aged 65.

John **W. S. Goudy** (Examination, Ohio); died at his home in Newcomerstown, Ohio, October 13, after an illness of four months, from cerebral hemorrhage, aged 78.

Frank **Beers, M.D.** Jefferson Medical College, Philadelphia, 1881; of Bushkill, Pa., died suddenly in a theater in Lebanon, Pa., October 29, from heart disease, aged 47.

William **H. Fayette, M.D.** Chicago Medical College, 1875, died at his home in Nickerson, Kan., October 27, from cerebral hemorrhage, after an illness of five days.

Daniel **Stoner Crumpacker** (Years of Practice, Indiana); a veteran of the Mexican and Civil wars, died at his home in Union Mills, Ind., August 20, aged 83.

Charles **Chandler Weaver, M.D.** Hahnemann Medical College of Philadelphia, 1879, died at his home in Fox Chase, Philadelphia, November 1, aged 48.

John **P. Hedrick, M.D.** Keokuk (Iowa) Medical College, 1897, died suddenly from heart disease at his home in Loraine, Ill., October 28, aged 48.

George **S. Scheiber, M.D.** Rush Medical College, Chicago, 1895, died at his home in Chicago, October 30, from cerebral hemorrhage, aged 37.

Mary **D. Dewey, M.D.** Eclectic Medical College of the City of New York, 1870, died at her home in Saratoga Springs, N. Y., August 20, aged 84.

George **W. Gustin** (Years of Practice, Ohio), who retired from practice many years ago, died at Union Furnace, Ohio, August 24, aged 93.

David **S. Stanton** (Years of Practice, Indiana); for many years health officer of Portland, Ind., died at his home in that city, August 22.

Frank **H. Morehouse, M.D.** Detroit College of Medicine, 1901; of Detroit, died from heart disease in Jackson, Mich., September 5, aged 29.

# *The Public Service*

## Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Nov. 10, 1906:

Heysinger, Jas. D., asst.-surgeon, ordered to Key West Barracks, Fla., for duty.

Stedman, Chester J., asst.-surgeon., leave of absence extended one month.

Whaley, A. M., asst.-surgeon, ordered to Fort Sam Houston, Texas for duty.

Boyer, Perry L., asst.-surgeon, relieved from duty at Fort Sam Houston, Texas, and ordered to Army and Navy General Hospital, Hot Springs, Arkansas, for duty.

Ragan, Charles A., asst.-surgeon, relieved from duty at Army and Navy General Hospital, Hot Springs, Arkansas, and ordered to Fort Monroe, Va., for duty.

Hereford, John R., contract surgeon, ordered from Fort Screven, Ga., to the Army and Navy General Hospital, Hot Springs, Ark., for treatment.

Stearns, Charles H., contract surgeon, left Fort Monroe, Va., for Fort Screven, Ga., for duty.

Hull, Alva R., contract surgeon, granted leave of absence for two months.

Reagles, James, contract surgeon, relieved from duty at Fort Keogh, Mont., and ordered to Fort Ontario, N. Y., for duty.

Van Kirk, Harry H., contract surgeon, relieved from duty at Fort Sill, Okla., and ordered to Fort Logan, Colo., for duty.

Slater, Ernest F., contract surgeon, relieved from duty at Fort Hancock, N. J., and ordered to Fort Banks, Mass., for duty.

Pinquard, Joseph, contract surgeon, ordered from Fort Robinson, Neb., to Fort Meade, S. D., for temporary duty.

Richardson, William H., contract surgeon, granted leave of absence for fourteen days.

Mason, George L., dental surgeon, left Fort Moultrie, S. C., and arrived at Fort McPherson, Ga., for duty.

Hughes, Leonard S., contract surgeon, granted leave of absence for one month.

Phelan, Henry du R., contract surgeon, ordered to Fort Rosecrans, Cal., to Presidio of Monterey, Cal., for duty.

Purnell, Julius M., contract surgeon, relieved from duty at Presidio of Monterey, Cal., and ordered to the Department Rifle Range, Point Bonita, Cal., for duty.

Brown, Wilmont E., contract surgeon, left Fort Walla Walla, Wash., on leave of absence for three months.

## Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Nov. 10, 1906.

Streets, T. H., medical director, to duty in command of the Naval Hospital, Washington, D. C.

Dickinson, D., medical director, detached duty in command of Naval Hospital, Washington, D. C.; to continue other duties.

Payne, J. H., Jr., P. A. surgeon, to duty at Navy Recruiting Station, Providence, R. I.

Hart, G. G., acting asst.-surgeon, to duty with Marine Recruiting Party, Atlanta, Ga.

Garrison, P. E., asst.-surgeon, detached Naval Medical School; to duty as medical zoologist for the Bureau of Science, Manila, sailing from Seattle, Nov. 28, 1906.

Morse, E. T., pharmacist, to duty at the Naval Medical School Hospital, Washington.

Rixey, P. M., surgeon general, to special temporary duty in connection with the President's trip to Panama and Porto Rico.

Langhorne, C. D., surgeon, detached *Brooklyn* when placed in reserve; to home and wait orders.

Kennedy, J. T., P. A. surgeon, detached duty at the Naval Station, Guantanamo; home and wait orders.

Chapman, R. B., asst.-surgeon, detached *Supply;* to Naval Station, Cavite, P. I.

Backus, J. W., P. A. surgeon, detached from *Texas* when placed in reserve; to duty Naval Station, Guantanamo, Cuba, and additional duty on the *Amphitrite.*

Phillips, T. N., pharmacist, detached Naval Medical School Hospital, Washington, Nov. 14, 1906; to the U. S. Naval Hospital, New Fort Lyon, Bent County, Colo.

Berryhill, T. A., surgeon, detached duty U. S. Naval Medical School, Washington, Nov. 14, 1906; in command of Naval Hospital, New Fort Lyon, Bent County, Colo.

Field, J. G., surgeon, detached from duty in the Bureau of Medicine and Surgery, Nov. 14, 1906; to duty at the U. S. Naval Hospital, Bent County, Colo.

Webb, U. R., P. A. surgeon, detached duty on the *Brooklyn* when that vessel is placed in reserve; to the Naval Torpedo Station, Newport, R. I.

## Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 7, 1906.

Wertenbaker, C. P., surgeon, relieved from Quebec and directed to proceed to St. John, N.B., for duty.

Grubbs, S. B., P. A. surgeon, leave of absence granted for one day, October 30, revoked.

Parker, H. B., P. A. surgeon, granted leave of absence for two months and fifteen days, from Nov. 29, 1906.

Goldberger, Joseph, P. A. surgeon, detailed to represent the service at the meeting of the American Public Health Association, to be held in the City of Mexico, Dec. 3, 1906.

Amesse, J. W., P. A. surgeon, relieved from duty at Gulfport, Miss., and directed to proceed to Washington, D. C., for temporary duty in the Hygienic Laboratory.

Francis, Edward, P. A. surgeon, granted leave of absence for ten days from Nov. 20, 1906.

Boggess, J. S., asst.-surgeon, directed to proceed to Buffalo, N. Y., for special temporary duty, on completion of which to rejoin his station at Stapleton, N. Y.

Collins, George L., asst.-surgeon, granted leave of absence for one day, Nov. 3, 1906, under Paragraph 189 of the Regulations.

Steger, E. M., asst.-surgeon, relieved from duty on the Revenue Cutter *Algonquin*, and directed to proceed to New York, N. Y., reporting his arrival by wire.

Ashford, F. A., asst.-surgeon, granted leave of absence for one month and fifteen days, from Nov. 15, 1906.

Light, S. D. W., acting asst.-surgeon, granted leave of absence for thirty days from Nov. 3, 1906.

Lyall, R., acting asst.-surgeon, granted leave of absence for one day under Paragraph 210 of the Regulations.

Sinks, E. D., acting asst.-surgeon, granted leave of absence for five days, from Nov. 7, 1906.

Wetmore, W. O., acting ast.-surgeon, relieved from duty at Buffalo, N. Y., and assigned to duty at Ellis Island, N. Y.

Wetmore, W. O., acting asst.-surgeon, granted leave of absence for two days, from Nov. 1, 1906.

Holsendorf, B. E., pharmacist, granted leave of absence for twenty-eight days, from Dec. 4, 1906.

Kepler, G. K., pharmacist, directed to proceed to Chicago, Ill., and report to the medical officer in command for duty and assignment to quarters.

BOARDS CONVENED.

A board was convened to meet at Ellis Island, N. Y., upon the call of the chairman, for the purpose of examining Pharmacist George Neves, to determine his fitness for promotion to pharmacist of the Second Class. Detail for the board: Surgeon G. W. Stoner, Chairman; P. A. Surgeon John McMullen, Recorder.

A board was convened to meet at the Bureau on Nov. 7, 1906, for the physical examination of officers of the Revenue-Cutter Service. Detail for the board: Asst.-Surgeon-General W. J. Pettus, Chairman; Asst. Surgeon-General J. W. Kerr, Recorder.

A board was convened to meet at San Francisco, Cal., on Nov. 1, 1906, for the purpose of examining applicants for cadetships in the Revenue-Cutter Service. Detail for the board: Surgeon H. W. Austin, Chairman; Asst-Surgeon F. H. McKeon, Recorder.

A board was convened to meet at Seattle, Wash., on Nov. 1, 1906, for the purpose of examining applicants for cadetships in the Revenue-Cutter Service. Detail of the board: Asst.-Surgeon H. G. Ebert, Chairman; Acting-Asst.-Surgeon F. R. Underwood, Recorder.

A board was convened to meet at San Francisco, Cal., on Nov. 12, 1906, for the purpose of making physical examinations of officers of the Revenue-Cutter Service. Detail for the board: Surgeon H. W. Austin, Chairman; P. A. Surgeon C. H. Gardner, Recorder.

A board was convened to meet at Port Townsend, Wash., on Nov. 12, 1906, for the purpose of making a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon W. G. Stimpson, Chairman; P. A. Surgeon J. H. Oakley, Recorder.

A board was convened to meet at Stapleton, N. Y., on Nov. 12, 1906, for the purpose of making physical examinations of certain officers of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon J. A. Nydegger, Chairman; P. A. Surgeon H. W. Wickes, Recorder.

A board was convened to meet at Boston, Mass., on Nov. 12, 1906, for the purpose of making a physical examination of certain officers of the Revenue-Cutter Service. Detail for the board: Surgeon R. M. Woodward, Chairman; P. A. Surgeon B. S. Warren, Recorder.

A board was convened to meet at Wilmington, N. C., on Nov. 12, 1906, for the purpose of making a physical examination of certain officers of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon C. H. Lavinder, Chairman.

A board was convened to meet at San Juan, P. R., as soon as practicable, for the purpose of making a physical examination of certain officers of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon M. H. Foster, Chairman; Acting Asst.-Surgeon P. del Valle Atiles, Recorder.

A board was convened to meet at Juneau, Alaska, as soon as practicable, for the purpose of making a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon M. W. Glover, Chairman.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service during the week ended Nov. 9, 1906:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Nov. 3, 1 case.
Louisiana: New Orleans, Oct. 27-Nov. 3, 2 cases (1 case imported).
Wisconsin: Milwaukee, Oct. 20-27, 14 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, Sept. 15-22, 2 cases.
Brazil: Bahia, Sept. 22-29, 9 cases.
Canada: Moncton, N. B., vicinity of, Nov. 1, 100 cases.
Chile: Antofagasta, Sept. 12-26, 30 cases, 10 deaths; Coquimbo, Sept. 8-22, 30 cases, 1 death.
Ecuador: Guayaquil, Oct. 7-14, 6 deaths.
India: Bombay, Sept. 25-Oct. 2, 1 death; Madras, Sept. 29-Oct. 5, 3 deaths.
Italy: General, Oct. 11-18, 2 cases.
Mexico: Vera Cruz, Oct. 6-13, 1 case, 1 death (imported from Mexico).
Persia: Ispahan, Aug. 31, present.
Russia: Moscow, Sept. 30-Oct. 6, 5 cases; Odessa, Sept. 30-Oct. 6, 2 cases.

YELLOW FEVER.

Cuba, Havana, Oct. 31-Nov. 6, 9 cases, 1 death; Neuva Paz, Nov. 2, 1 case; Rodas, Nov. 6, 1 case; Santa Clara, Nov. 1, 1 case.
Mexico: Merida, Oct. 14-20, 1 case.
Ecuador: Guayaquil, Oct. 7-14, 1 case, 3 deaths.

CHOLERA.

India: Bombay, Sept. 25-Oct. 2, 12 deaths; Calcutta, Sept. 15-29, 44 deaths; Madras, Sept. 29-Oct. 5, 65 deaths.

PLAGUE.

India: General, Sept. 15-29, 11,381 cases, 12,702 deaths; Bombay, Sept. 25-Oct. 2, 40 deaths; Calcutta, Sept. 15-29, 11 deaths.
Persia: Seistan, Aug. 1-17, 2 cases, 2 deaths.
Peru: Lima, Sept. 14, 1 case.

# *Medical Education and State Boards of Registration.*

## COMING EXAMINATIONS.

MISSOURI State Board of Health, Kansas City, November 26-28. Secretary, J. A. B. Adcock, Warrensburg.

NEW MEXICO State Board of Health, Santa Fe, December 3. Secretary, Dr. B. D. Black, Las Vegas.

PENNSYLVANIA State Medical Examining Board, Industrial Hall, Philadelphia, December 4-7. Secretary, Dr. Joseph E. Willetts, Pittsburg.

WYOMING Board of Medical Examiners, State Capitol, Cheyenne, December 5. Secretary, Dr. S. B. Miller, Laramie.

DELAWARE State Medical Society Examining Board, Dover, December 6, and by the Homeopathic Board at Wilmington on same date. Secretary of the Medical Council, Dr. P. W. Tomlinson, Wilmington.

OHIO State Board of Medical Registration and Examination, Columbus, December 11-13. Secretary, Dr. Geo. H. Matson, Columbus.

IOWA State Board of Medical Examiners, Office of State Board of Health, Des Moines, December 11-13. Secretary, Dr. J. F. Kennedy, Des Moines.

VIRGINIA Medical Examining Board, Richmond, December 11-14. Secretary, Dr. R. S. Martin, Stuart.

MARYLAND Board of Medical Examiners, 847 N. Eutaw St., Baltimore, December 12-15. Secretary, Dr. J. McP. Scott, Hagerstown.

CALIFORNIA State Board of Medical Examiners, San Francisco, December 18. Secretary, Dr. Chas. L. Tisdale, Alameda.

OKLAHOMA Board of Medical Examiners, Guthrie, December 26. Secretary, Dr. J. W. Baker, Enid.

**Colorado College Report for 1905.**—From correspondence with Dr. S. D. Van Meter, secretary of the Colorado State Board of Medical Examiners, we learn that two of the failures charged against the Denver and Gross College of Medicine in the Educational Number of THE JOURNAL, Aug. 25, 1906, were undergraduates and, therefore, the college is not to be held responsible for them. Hereafter graduates of Colorado schools will be examined before being licensed in Colorado, and the schools of that state will doubtless make a better showing in the examination statistics, since formerly the best students were licensed without examination, and were, therefore, not considered in figuring the percentage of failures.

**Washington July Report.**—Dr. C. W. Sharples, secretary of the State Medical Examining Board of Washington, reports the written examination held at Tacoma, July 3-5, 1906. The number of subjects examined in was 17; total number of questions asked, 100; percentage required to pass, 75, and 70 for those having had 10 years' practice. The total number of candidates examined was 109, of whom 84 passed and 25 failed. The following colleges were represented:

PASSED.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| University of California | (1904) | 80.9 |
| University of Southern California | (1906) | 87.6 |
| College of P. & S., San Francisco | (1906) | 80 |
| California Med. Coll. | (1896) | 79.5 |
| Cooper Med. Coll. | (1896) 69.8; (1898) | 84.4 |
| Denver and Gross Med. Coll. | (1904) | 91.9 |
| Gross Med. Coll. | (1888) 74.8; (1902) | 89.8 |
| Colorado School of Med. | (1896) | 79.9 |
| Yale University Med. School | (1904) | 84.6 |
| College of P. S., Chicago (1900) 78.3; (1901) 75.7, 81.2; (1906) 79.3, 82.4, 85. | | |
| Northwestern Univ. Med. School (1902) 80.2; (1904) 93.6; (1905) 91.6; (1906) 89.8. | | |
| American Med. Miss. Coll. | (1904) 86; (1905) | 83.6 |
| Bennett Med. Coll., Eclec., Chicago | (1897) | 71.4 |
| Dunham Med. Coll., Homeo., Chicago* | (1898) 79.3; (1901) | 79.6 |
| Rush Med. Coll. (1897) 87.4; (1901) 75, 80.7; (1902) 84.2; (1903) 83.4, 90.7; (1904) 86.5; (1906) 91.3. | | |
| Hahnemann Med. Coll., Chicago | (1884) | 70.1 |
| Medical Coll. of Indiana | (1905) | 80.4 |
| Central Coll. of P. & S., Indianapolis | (1897) | 76.8 |

| | | |
|---|---|---|
| Indiana Med. Coll. | (1906) | 85.3 |
| University of Iowa (1885) 72.3; (1892) 75; (1896) 76.8; (1905) 81.2. | | |
| University of Louisville | (1906) | 85.5 |
| Tulane University | (1906) | 85.4 |
| Tufts Coll. Med. School | (1902) | 80.1 |
| University of Michigan | (1894) 77.1; (1905) | 86.7 |
| University of Minnesota | (1904) 81.9; (1905) | 75.3, 82.5 |
| Kansas City Med. Coll. (1892) 75.4; (1893) 77.3; (1898) 76.3; (1904) 78.4. | | |
| Barnes Med. Coll. | (1906) | 78.2, 79.2 |
| St. Louis University (Marion-Sims-Beaumont Med. Coll.) (1898) 81; (1904) 79.5. | | |
| Washington University, St. Louis | (1893) 74.2; (1898) | 80.5 |
| University of Nebraska | (1904) | 78.2 |
| College of P. & S., New York | (1904) | 82 |
| University of Buffalo | (1901) | 83.3 |
| Bellevue Hosp. Med. Coll. | (1891) | 81.2 |
| Starling Med. Coll. | (1895) | 70.7 |
| College of P. & S., Cleveland | (1904) | 78.1 |
| University of Oregon (1904) 79.5; (1905) 82; (1906) 77.6, 81.2, 82.9, 86.7. | | |
| Jefferson Med. Coll. | (1906) | 82.7 |
| Woman's Med. Coll. of Pennsylvania | (1892) | 72.3 |
| University of Pennsylvania | (1895) 91.2; (1904) | 80.4 |
| Vanderbilt University | (1905) | 83 |
| University of the South | (1901) | 82.3 |
| University of Nashville | (1902) | 79 |
| University of Virginia | (1904) | 82.1 |
| University of Vermont | (1904) 77.7; (1905) | 79.3 |
| University of Jurjev, Dorpat, Russia | (1902) | 77.5 |
| Laval University, Quebec | (1896) | 73.2 |

FAILED.

| | | |
|---|---|---|
| College of P. & S., San Francisco | (1902) | 73.2 |
| College of P. & S., Chicago | (1898) | 63.7 |
| Howard University | (1892) | 68.4 |
| Hahnemann Med. Coll., Chicago | (1896) | 68.1 |
| Hering Med. Coll. | (1906) | 58.9 |
| Northwestern Univ. Med. School | (1884) | 62.7 |
| Bennett Med. Coll., Eclec., Chicago | (1906) | 74.1 |
| College of P. & S., Kansas City | (1901) | 57.7 |
| University of Louisville | (1871) | 53.8 |
| Louisville Med. Coll. | (1904) | 67.2 |
| College of P. & S., Baltimore | (1893) | 68.2 |
| University of Michigan | (1904) | 72.9 |
| Saginaw Valley Med. Coll. | (1900) | 71.1 |
| University of Minnesota | (1905) | 72.3 |
| Missouri Med. Coll.† | (1889) | 59.8 |
| Lincoln Med. Coll. | (1897) | 63.5 |
| Columbia University | (1893) | 69. |
| Willamette University | (1906) | 72, 74.4 |
| Barnes Med. Coll. | (1906) | 60 |
| Chattanooga Med. Coll. | (1906) | 71.3 |
| Vanderbilt University | (1895) | 66.2 |
| Dallas Med. Coll. | (1903) | 47.5 |
| Toronto University | (1904) | 73.8 |
| Imperial University, Tokio, Japan | (1900) | 72.2 |

* Merged with Hering Medical College in 1902.
† Merged with Washington University in 1889.

**Rules Governing Examinations in Wisconsin:**—Dr. J. V. Stevens, secretary of the State Board of Medical Examiners has sent us a statement showing the number of questions asked in the various branches and the rules governing the licensing examination. These are as follows:

QUESTIONS.

In the examination a total of 100 questions are asked, divided among the various subjects as follows: General surgery, 8; laryngology, 2; ophthalmology, 3; anatomy, 8; pediatrics, 4; obstetrics, 8; gynecology, 4; pathology, 8; bacteriology, 2; histology, 2; materia medica and therapeutics, 7; medicine, 8; neurology, 5; dietetics, 4; medical jurisprudence, 3; physiology, 7; hygiene, 2; physical diagnosis, 3; chemistry, 7; toxicology, 3 and urinalysis, 2.

RULES FOR EXAMINATION.

*First:* Questions will be given out and answers collected punctually at the time specified for each section. No papers will be accepted unless the examination be actually held at the appointed time. The time allowed for each examination shall be limited to one hour for every five questions.

*Second:* If any candidate withdraws *without* permission from the sight of the examiner, his or her examination shall be closed.

*Third:* A general average of 75 per cent. shall be necessary to license a candidate (he or she having otherwise complied with the law) provided, that in no one branch shall he percentage be less than 60.

*Fourth:* Each applicant shall register his or her name opposite a number in a book kept by the secretary for that purpose, and shall mark his or her paper with said number, and shall be known to the members of this board only by said number until his or her papers have been examined and marked, and any paper having any other mark or device shall be thrown out without further examination.

*Fifth:* All examinations shall be in writing and in the English language.

*Sixth:* Each candidate shall be seated at least four feet distant from those adjoining.

*Seventh:* Any prompting, talking, passing of paper or cribbing may be deemed sufficient to exclude candidate so doing from completing the examination.

**District of Columbia July Report.**—Dr. George C. Ober, secretary of the Board of Supervisors in Medicine, reports the written examination held at Washington, July 12, 1906. The number of subjects examined in was 17; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 36, of whom 24 passed and 12 failed. The following colleges were represented:

| PASSED. College. | Year Grad. | Per Cent. |
|---|---|---|
| George Washington University (1906) 76.2, 77.6, 78, 78.6, 78.9, 80.5, 80.7, 81.1, 81.7, 82.7, 84.3, 85, 86.1, 88, 94. | | |
| Howard University | (1906) | 80.1, 85.8, 89.5 |
| Georgetown University | (1905) 92.6; (1906) | 84, 87.4 |
| Baltimore Med. Coll. | (1905) | 83.1 |
| Hahnemann Med. Coll., Philadelphia | (1904) 81; (1906) | 80.5 |

FAILED.

| | | |
|---|---|---|
| George Washington University (1905) 71.7; (1906) 65.9, 68.5, 72.8, 73.7, 74.2. | | |
| Georgetown University | (1903) 71.5; (1905) | 66.3 |
| National University, Medical Dept.* | (1902) | 32.3 |
| University of Louisville | (1878) | 74.2 |
| Southern Homeo. Med. Coll. | (1906) | 64.5 |
| University of Virginia | (1906) | 68.8 |

* Merged with Columbian (now George Washington University) Medical Dept., in 1903.

## Medical Organization

### Washington.

ASOTIN COUNTY MEDICAL SOCIETY.—At a meeting held recently in Asotin a permanent organization of this society on the standard plan was effected and the following officers elected: President, Dr. Lafayette Woodruff, Asotin; vice-president, Dr. Paul W. Johnson, Clarkston; secretary, Dr. Isaiah U. Temple, Clarkston, and treasurer, Dr. Stephen D. Brazeau, Asotin.

CLARKE COUNTY MEDICAL SOCIETY.—With the assistance of Drs. James R. Yocum and Charles McCutcheon, Tacoma, the physicians of Clarke County met at Vancouver and organized a society on the standard plan, electing Dr. J. Randolph Smith, Vancouver, president, and Dr. Edward F. Hixon, Vancouver, secretary.

### West Virginia.

BERKELEY COUNTY MEDICAL SOCIETY.—Dr. William W. Golden, president of the Medical Society of the State of West Virginia, met the physicians of Berkeley County at Martinsburg and assisted in the organization of a society on the standard plan. The following officers were elected: Dr. J. McKee Sites, president; Dr. W. T. Henshaw, vice-president; Dr. Clifford R. Sperow, secretary, and Dr. Newton D. Baker, treasurer, all of Martinsburg.

### Wisconsin.

DOOR COUNTY MEDICAL SOCIETY.—A county medical society was organized in Sturgeon Bay recently with the following officers: Dr. Herbert N. Leete, Sturgeon Bay, president; Dr. L. E. Gotham, Sawyer, vice-president, and Dr. Gustave R. Egeland, Ephraim, secretary and treasurer; Dr. George F. Hilton, Sturgeon Bay, delegates to the state society, and Drs. Nicholas Z. Wagner, Sturgeon Bay; J. E. Bingham, Sawyer, and Thomas C. Proctor, Sturgeon Bay, censors.

DANE COUNTY MEDICAL SOCIETY.—At the reorganization of the county medical society at Madison the following officers were elected: President, Dr. Charles S. Sheldon, Madison; vice-presidents, Drs. Louis R. Head, Madison; Peter C. Gilberson, Mount Horeb, and Byron W. Shaw, Waunakee, and secretary and treasurer, Dr. Julius Noer, Stoughton.

## Society Proceedings

### COMING MEETINGS.

Southern Surg. and Gyn. Assn., Baltimore, Dec. 11-13.
American Public Health Assn., Mexico City, Dec. 3-7.

### MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Thirty-second Annual Meeting, held at Hot Springs, Ark., Nov. 6-8, 1906.*

The President, DR. J. HENRY CARSTENS, Detroit, in the Chair.

### Officers Elected.

The following officers were elected for the ensuing year: President, Dr. H. H. Grant, Louisville, Ky.; vice-presidents, Dr. Barr, Hot Springs, Ark., and Dr. T. C. Witherspoon, St. Louis; secretary, Dr. Henry Enos Tuley, Louisville, Ky.; treasurer, Dr. Samuel C. Stanton, Chicago.

Columbus, Ohio, was selected as the place for holding the next annual meeting, October, 1907.

Addresses of welcome were delivered by Mayor George R. Belding, Dr. S. P. Collings and Hon. Charles D. Greaves. The response to these addresses was delivered by Dr. J. M. Mathews, Louisville, Ky.

### Future of the Medical Profession.

PRESIDENT CARSTENS in his address referred to the early history of medicine. Great advances have been made during the last 35 years. By gradually increasing the requirements, only the best minds have been able to enter the practice of medicine. Only men with the best mental caliber should be allowed to practice medicine.

In referring to organization, he said that as the country is large it is desirable to have larger societies in different parts of the country. The American Medical Association, however, should not establish a rule and force certain states to join together in the form of a branch, but this should be left to the members to organize in any way they desire. If the East, the West or the South desires to form an association, all right. If either should run over the border into some other branch, what is the difference? We can have a Mississippi Valley Medical Society, a Southern society or a New England society and a Rocky Mountain society, and still any member of the American Medical Association should have a right to belong to any one or all of them. He feels sure that at the next meeting of the American Medical Association this point will be settled.

The great men of the medical profession are working unselfishly for the good of the race. The moral tone has been materially elevated.

President Carstens then devoted considerable attention to liars in the medical profession, saying that they have diminished materially, and with a higher standard he hopes they will soon be eliminated entirely. There are still some liars in the profession, but in his experience there are few among the young members. Some of these liars are of the pious order. One variety of liar is the man who claims to be a surgeon, but who treats typhoid fever and pneumonia if the patients are wealthy. He will even treat measles and cholera infantum if the grandfather is a millionaire.

He closed his remarks with an eloquent plea for thorough general knowledge on the part of the medical profession. The days when the medical man only knew something about drugs, or how to treat some diseases, are past. The physician should take an interest in everything that affects the community in which he lives. He should be first and foremost and all the time a physician, but still he should be informed on all kinds of questions. He should thoroughly understand the workings of the inner mind, quickly grasp the weakness and the strength of an individual's mentality, and thus be able to shape the course of the individual and of the community.

*(To be continued.)*

## PHILADELPHIA BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

*Regular Meeting, held Nov. 6, 1906.*

The regular November meeting was held in the College of Physicians and was devoted to the discussion of "The Work of the Council on Pharmacy and Chemistry of the American Medical Association."

The meeting was attended by over forty members and visitors, all of whom manifested a keen interest in the subject matter under discussion, many of them taking an active part in the discussion itself.

### The Proprietary Medicine Question and the Council on Pharmacy and Chemistry.

The program that had been prepared to introduce the subject matter included the following communications:

S. P. SADTLER, PH.D., professor of chemistry in the Philadelphia College of Pharmacy, and also a member of the Council on Pharmacy and Chemistry of the American Medical Association, described "The Work of the Council."

DR. ALFRED STENGEL, professor of clinical medicine in the Medical Department of the University of Pennsylvania, spoke of "Endorsement of the Council by Medical Men."

CHAS. H. LAWALL, assistant professor of pharmacy in the Philadelphia College of Pharmacy, spoke of "The Effect of Publicity on the Standing and the Use of Nostrums."

PROF. W. A. PUCKNER, Chicago, secretary of the Council on Pharmacy and Chemistry of the American Medical Association, contributed a paper on "The Needs of the Council," which, in the absence of the author was read by the secretary of the local branch.

### Approval of the Council.

The subject was further discussed by Messrs. Thum, Apple, Kramer, Lowe, Potts, Riegel, Vanderkleed and others, and the following resolutions were adopted:

RESOLUTIONS FAVORING EXHIBITIONS OF PHARMACOPEIA AND FORMULARY PREPARATIONS.

WHEREAS, It appears to be desirable that physicians be made more fully acquainted with the contents of the U. S. Pharmacopeia and of the National Formulary and that they be given some practical demonstration of the resoruces and the abilities of present day pharmacists; therefore, be it

*Resolved*, That the Philadelphia Branch of the American Pharmaceutical Association favors the holding of a scientific exhibition, of U. S. P. and N. F. preparations, in connection with annual or stated meetings of medical societies, in its territory; and, be it further

*Resolved*, That a committee of five members be appointed, by the chair, to cöoperate with the executive committee in obtaining permission for and in organizing such exhibtions.

RESOLUTIONS ENDORSING COUNCIL ON PHARMACY AND CHEMISTRY.

WHEREAS, The practice of pharmacy constitutes an important branch of the science of medicine; and

WHEREAS, Secrecy in any one department or branch of a science must of necessity be a menace to and detract from accurate observation and rational progress in other departments and branches of the same science; and

WHEREAS, The American Medical Association, in establishing the Council on Pharmacy and Chemistry, has recognized and endorsed this underlying principle of true progress, in the science of medicine, through the department of pharmacy; therefore be it

*Resolved*, That we, the members of the Philadelphia Branch of the American Pharmaceutical Association, heartily endorse the objects and the aims of the Council on Pharmacy and Chemistry of the American Medical Association; and, be it further

*Resolved*, That, individually as well as collectively, we pledge our active support and cöoperation, to the Council, in the work now in hand.

### Future Meetings.

It was announced that the remaining meetings of the Philadelphia Branch of the American Pharmaceutical Association have been arranged for on the following evenings, at the College of Phyiscians, 15th and Locust Sts.

DECEMBER.—Wednesday, Dec. 12, 1906.
The Federal Pure Food and Drug Law.
JANUARY.—Friday, Jan. 4, 1907.
The Debasing Influences of Fraudulent Nostrums.
FEBRUARY.—Tuesday, Feb. 5, 1907.
Higher Educational Requirements for Pharmacists.
MARCH.—Tuesday, March 5, 1907.
The Indiscriminate Renewal of Prescriptions.
APRIL.—Tuesday, April 2, 1907.
Popularizing U. S. P. and N. F. Preparations.
MAY.—Tuesday, May 7, 1907.
The Proposed Reorganization of the American Pharmaceutical Association.

It was also announced that as pharmacists will find the subject matter to be discussed at these meetings of direct importance to them, they are invited to come and bring their friends.

## MEDICAL SOCIETY OF VIRGINIA.

*Thirty-sixth Annual Session, held at Charlottesville, Sept. 9-11. 1906.*

Under the Presidency of DR. LOMAX GWATHMEY, Norfolk, Va.

### Officers Elected.

The following officers were elected for the ensuing year: President, Dr. Paul B. Barringer, Charlottesville, Va.; vice-presidents, Drs. B. B. Bagby, Walkerton, F. H. Hancock, Norfolk, and Dr. C. F. Rinker, Upperville; recording secretary, Dr. Landon B. Edwards, Richmond (re-elected); corresponding secretary, Dr. John F. Winn, Richmond (re-elected); treasurer, Dr. R. M. Slaughter, Theological Seminary (re-elected). Delegates to the American Medical Association: Dr. Stuart McGuire, Richmond; Dr. W. E. Anderson, Farmville; Dr. W. F. Drewry, Petersburg.

Chase City was chosen as the next place of meeting.

### Life Insurance Fees.

The Committee on Fees for Life Examinations made the following recommendations:

That a minimum fee of $5 be charged by members of the society when urinalysis is required on all policies of $5,000 or less. That a minimum fee of $3 be charged on all policies of $3,000 or less, when a urinalysis is not required. That no discrimination be made in favor of fraternal or benevolent organiza-

tions. That this society express in no uncertain language its disapproval of the actions of insurance companies toward their examiners; and further, that it determine the status of members that submit to a reduction of fees; and further, that it ask all local societies to prescribe the status of members who act in opposition to the views of the majority. That this society use its influence, collectively and individually, in behalf of all companies paying a straight $5 fee.

This report was accepted and adopted, and the delegates to the American Medical Association were instructed to use their best efforts to get a strong committee appointed from that body to take the matter up with the various life insurance companies and to secure a regular schedule of fees.

### Proprietaries and "Patent Medicines."

On motion of Dr. Edward McGuire, Richmond, a committee was appointed to draft a bill requiring all proprietary preparations and "patent medicines" sold in the state to have printed on the label of the bottle or package their formula—this bill to be presented at the next session of the state legislature.

### Clinical Reports.

DR. W. S. GORDON, Richmond, reported a case of myxedema in a child seventeen months old. The child was treated with thyroid extract (desiccated) in ½ gr. doses and recovered.

DR. L. G. PEDIGO, Leatherwood, mentioned a case in which a diagnosis of cholecystitis was made and where the clinical history was perfect. On operation, it was found to be a case of chronic pancreatitis. He called attention to this case as illustrating the difficulty of diagnosing disease of the pancreas.

DR. I. S. STONE, Washington, D. C., spoke of the great work that is being done by surgeons who explore the upper abdominal cavity in throwing light on these troubles. He referred to two cases that illustrated the point brought out by Dr. Pedigo. He reminded the society that from one to five per cent. of the cases of jaundice where the attacks are so much like those accompanying gallstone disease turn out to be cases of chronic pancreatitis.

DR. HUGH M. TAYLOR, Richmond, said that chronic pancreatitis must be much more common than it is thought to be on account of the intimate anatomic relationship of the gall bladder, intestines, and pancreas; and an infection involving one of these structures is very liable to affect the others.

DR. JACOB MICHAUX, Richmond, reported a case of probable arrested development of the skin, in which epidermization was incomplete in symmetrical lines on opposite sides of the body. These raw places healed in a short time under antiseptic dressings.

DR. W. L. ROBINSON, Danville, reported a case of bowel obstruction in which the cecum and appendix were found in the scrotum. Six inches of the bowel were resected, with recovery of the patient.

### Home and Office Treatment of Inebriety.

DR. T. D. CROTHERS, Hartford, Conn., does not think that the seriousness of alcohol intoxication is recognized by the average practitioner. Alcohol intoxication is a profound toxemia and paralysis, with coma, pressure on certain brain centers, and other grave pathological changes. It is a question how often a person may become intoxicated and still live. One author says five hundred times; another one thousand; while a careful study of the subject shows that the majority of the inebriates seldom become intoxicated more than one hundred times.

The treatment requires skill and study. The first thing is to recognize and remove any causal agents; such as exhaustion from over-work, bad hygienic surroundings, night work, etc. In the acute stage, elimination is the important thing—salines, the hot pack, alternate hot and cold applications to the spine. Along with this use uerve sedatives—sodium bromid, 50 to 100 grains at a time, and then wait for a day or two before giving more, lupulin, valerian, etc. The most important thing in the after treatment is to impress the patient with the fact that he has a disease which requires a long course of treatment, and treat him with tonics. An aqueous solution of quassia, two ounces, every hour, for a day or two before an expected spree, will destroy the craze for drink and even render it distasteful.

### The Modern Treatment of the Toxemia of Pregnancy.

DR. JOHN F. WINN, Richmond, emphasized two points: (1) The value of prophylaxis and elimination; (2) the importance of early, unremitting, and systematic medical supervision of every pregnant woman. He accepts as the most plausible theory for the cause of this condition, a disturbance of nitrogenous metabolism because of the failure of the oxidizing capacity of the liver. He believes also that enough evidence has been adduced to warrant the statement that the clinical manifestations of the toxic state; viz: Hyperemesis gravidarum, eclampsia, and acute yellow atrophy are one and the same disease whose kidney lesions are secondary to the lesions in the liver, and whose danger signal is not so much the loss of urea as the excess of ammonia. He is of the opinion that we should no longer trust wholly to the urinalyses as ordinarily made, but, in all cases of doubtful diagnosis, we should avail ourselves of the modern methods of a thoroughly equipped pathologist or chemist for determining the ammonia co-efficient. He regretted that too often there is an indifference to the dangers of pregnancy that is appalling and well-nigh culpable. He pleaded earnestly for a complete revolution in this regard, and urged that the most rigid prophylaxis be observed from the time pregnancy is suspected. He would make it obligatory on patients to report promptly the earliest symptoms of the toxic state. They should be made to realize the importance of engaging and consulting their physician at the earliest period in pregnancy, and not to defer this duty until headache and edema develop. Especially, would he advise earlier and more frequent urinalyses, and the more liberal drinking of water. The treatment is elimination; special emphasis was placed on active purgation, and repeated and persistent colonic irrigation in large quantities. The author advocates emptying the uterus by some safe and rapid method before it is too late, preferably by the Voorhees' hydrostatic bags, and manual dilatation.

### Medical Treatment of Gallstones.

DR. CHAS. S. WEBB, Bowling Green, gave his treatment as follows: The patient is first given this prescription:

| | | | |
|---|---|---|---|
| R. | Chloroformi (pur) | ℥i | 4 |
| | Olei olivæ | | |
| | Mucil. acaciæ, āā | ℥ii | 60 |

M. Sig.: Two teaspoonsful every four hours. After taking these doses for about forty-eight hours, and after the patient has fasted ten or twelve hours, he gives

| | | | |
|---|---|---|---|
| R. | Spts. eth. comp | ℥i | 4 |
| | Olei olivæ | ℥viii | 240 |

at one dose. The patient is then directed to lie on the right side with hips slightly elevated (about three or four inches) for one hour; then lie on the left side with hips elevated ten or twelve inches, the spinal column being kept as straight as possible so as to form the hypotenuse of a triangle. This position, if possible, is kept for an hour and a half. After three or four hours, a large dose of castor oil is given.

DR. HUGH M. TAYLOR, Richmond, said that it is generally conceded that the large stone ulcerated either through the bladder into the intestines or through a sacculated duct. He does not believe that there is any medical treatment for gallstones. The medical treatment should be aimed at their prevention, but when once formed it is a question whether they should be interfered with, since according to statistics only 5 per cent. of gallstones give trouble.

### Value of Hospitals as Educational Institutions.

DR. JOSEPH PRICE, Philadelphia, emphasized the importance of small private hospitals because they save life in acute surgical cases where delay means death; they return to domestic life many people who are incapacitated for work by some trouble requiring a trivial operation, but who will not go to a distant hospital for operation though they would allow the work to be done at home. The private hospital serves as an educational institution for the community physicians. It enables the local physician to reap some of the benefit of modern advancement of surgery. He urged that every county poor house have an operating room attached where the county society should hold clinics from the abun-

dant material always to be found there, for the benefit of its members.

Dr. Price called attention to the magnificent work that has been done by a number of small private hospitals that have come under his observation. He said that Virginia gave the pioneer in abdominal surgery, and also the third great private hospital and training school, polyclinic and postgraduate school (McGuire's, St. Luke's), where young men serve their apprenticeship in good numbers and become prominent operators. He said that all hospitals should be clinical schools. That the visiting staff, surgeons, physicians and specialists should be compelled to teach the residents and community physicians. That the residents throughout the country should be doubled and quadrupled, that all graduates may have a hospital apprenticeship. The large clinics, or matinees, are a waste of valuable material.

### Treatment of Pleurisy and Empyema.

DR. W. P. CARR, Washington, D. C., emphasized the importance of an early recognition and removal of fluid from the pleural cavity to prevent compression of the lung; the frequency of pleurisy as a complication of pneumonia; the remarkable success of simple drainage, which is the only indication in acute cases and which is indicated in chronic cases where the patient is not in condition to stand a more serious operation. Dr. Carr usually prefers to make the opening a little anterior to the mid-axillary line, about the seventh rib, where there is little muscle over the rib and where it is convenient to get at for dressings. The anterior opening drains just as well as one made posterior because pus never flows out of such a cavity by gravity, but is pushed out by the contracting walls of the chest. The important thing is to have a large drainage tube through which pus and clots of lymph may be extruded. It is not necessary to wash out the pleural cavity at first, but it may be done later with saline solution, followed by the antiseptic solutions.

### Uncinariasis.

DR. B. B. BAGBY, Walkerton, called attention to the frequency of uncinariasis in Virginia. He showed a number of specimens of the parasites and also two or three of his patients.

### Treatment of Cancer.

DR. J. SHELTON HORSLEY, Richmond, called attention to the peculiar apathy of the medical profession to this disease, and attributed this apathy partly to the fact that the cause of cancer is still unknown, in spite of the work that has been done by numerous cancer commissions, and partly to the fact that the greater percentages of cures have been accomplished only after extensive and radical operations in the hands of skilled surgeons or specialists. He urged the necessity of the surgeons having an accurate knowledge of the structure and macroscopic appearance of malignant growths, and does not think that it is well always to wait for the report of a pathologist because the incision of the growth in order to get a specimen for microscopic examination involves the danger of a rapid metastasis, and may make a later operation useless.

In treating cancer, it is necessary to recognize the fact that all malignant growths are not of the same malignancy, and the agents that will destroy one may only stimulate another to greater activity, for the difference between destruction and stimulation is only one of degree. For instance, chemicals or the *x*-ray may remove a superficial epithelioma of the face while they would only cause increased activity in the case of a malignant growth of the breast. These facts show the rich field that is open to the cancer quack while at the same time it shows the danger to which the victim is subjected, for the quack does not recognize the distinction above referred to. Dr. Horsley called attention to the catchy way the quacks have of advertising, especially their guarantee to cure or refund the fee. He says that the so-called cancer hospital is nothing more than a third-rate boarding house which at $5 per week would be run at a profit, whereas they charge $20 per week. At the end of three to six months, when they have been clearing more than $15 per week, it is not such liberality after all if they return the "fee" and tell the patient that he waited too late to come to them.

## VERMONT STATE MEDICAL SOCIETY.

*Ninety-third Annual Meeting, held at Barre, Oct. 11-12, 1906.*

The President, DR. M. L. CHANDLER, Barre, in the Chair.

### Officers Elected.

The following officers were elected: President, Dr. D. C. Hawley, Burlington; vice-president, Dr. C. W. Strobell, Rutland; secretary, Dr. George H. Gorham, Bellows Falls; treasurer, Dr. B. H. Stone, Burlington; auditor, Dr. John H. Blodgett, Saxton's River; and delegate to the American Medical Association, Dr. J. Henry Jackson, Barre.

The next annual meeting will be held at St. Johnsbury in October, 1907.

The society formally disapproved of contract practice.

At the annual banquet, the governor and lieutenant governor and their wives were the guests of honor, and Dr. Walter L. Havens, Chester Depot, acted as toastmaster.

### Nephrolithiasis.

DR. M. L. CHANDLER, Barre, in his presidential address, said that although nephrolithiasis frequently takes place in infants and small children it is not recognized. Large calculi may form in the pelvis of the kidney and obstruct the mouth of the ureter and thus lead to hydronephrosis or pyonephrosis. In some cases they require removal by surgical means. They generally commence as uric acid or oxalate deposits. In the male the differential diagnosis must be made between intestinal obstruction, floating kidney and gastric pain. When pain is on the right side in the female the diagnosis is sometimes very difficult. The pain may be due to gallstones, pleurisy, floating kidney, intestinal colic or obstruction, appendicitis, ovarian inflammation, uterine colic, lumbago, neuralgia, tubal pregnancy and aneurism.

Treatment consists in hypodermic injections of morphia and atropia, hot applications locally and large warm enemata. General treatment is dietetic and hygienic. The patient should take large quantities of distilled water. Alkaline mineral waters are good, except when the stone is phosphatic. Benzoic acid and boric acid are good in the later cases. A small amount of nitrogenous foods should be taken. Eggs and milk are good; not so any food that is rich in lime. It is very important to make frequent examinations of the urine.

### Treatment of Fractures.

DR. E. S. ALLBEE, Bellows Falls, stated that he never operates on fractures of the skull unless there are symptoms of depression. In fracture of the clavicle in children, strap a compress over seat of injury. In adults use Dr. Phelps' apparatus. In Colles' fracture he advised the use of an anesthetic in all cases. Use Carr's splint for adults and anterior and posterior splints for children. He recommended Scudder's splint for fractured fingers and hands. In compound fracture of the patella, wire together. In closed fractures use long posterior pulp splint and strap a pad at the seat of injury. In fractured condyle of the humerus put a hard compress over the seat of the injury and flex the arm at a right angle. In fracture of the thigh use coaptation splints with weight and pulley. In fracture of the neck of the femur use Hodgkin's splint. In Pott's fracture apply adhesive plaster around the malleolus and then put on a plaster-of-Paris splint. In fracture of the upper part of the humerus put a compress in the axilla, and apply a light shoulder splint and coaptation splints. Bandage together and put arm in sling.

#### DISCUSSION.

DR. C. M. CAMPBELL, Rochester, thought it better to use the sandbag and fracture box at first in fractures of the lower extremities, and passive motion early in fracture of the elbow joint.

DR. J. M. ALLEN, St. Johnsbury, advised the use of an anesthetic in all cases of fracture of the long bones. Put them up in the proper position at first and do not examine for a week.

DR. C. W. STROBELL, Rutland, thought that Moore's method, with a slight modification, gives the best results in Colles' fracture. In these cases commence passive motion early, even the next day.

### Treatment of Chronic Cardiovascular Diseases.

DR. EGBERT LE FEVRE, New York, showed conclusively that it is necessary for the physician to thoroughly understand the underlying causes of the disease. He should try and find out the cause of the increased blood pressure and the arteriosclerotic changes that are taking place in the blood vessels. He cautioned against indiscriminate use of vasomotor dilators and heart tonics.

DISCUSSION.

DR. J. N. JENNE, Burlington, spoke of the importance of understanding all the pathologic conditions involved. He cautioned physicians against the unlogical use of the nitrites in many diseases of the heart. Nearly all drugs, he said, are disappointing in cardiac incompetency.

### Arteriosclerosis.

DR. H. D. ARNOLD, Boston, said that it is very important to recognize the disease in the early stages, as it is very complex in its various manifestations. The clinician and pathologist do not agree as to whether renal disease is the cause or the effect of sclerosis of the blood vessels. The aorta and splanchnic arteries may be affected and the superficial vessels show no change. The four essential factors in blood pressure are the volume of the blood, the cardiac energy, the vasomotor contraction and the elasticity of the vessel walls. An increased blood pressure means more work on the heart, which leads to either hypertrophy or dilatation. The causes for increased blood pressure are toxic and nervous influences and excessive muscular work. The most important factor is toxic: poisons from without, such as alcohol, tobacco and lead; imperfect metabolism, as in gout, diabetes and excessive ingestion of food; imperfect elimination. Syphilis is also a cause. The mental element is seen in the intense application, responsibilities and worries of modern business life. The same causes that affected the blood vessels may also cause changes in the heart and kidneys. It is very important to find out the cause of the high pressure in the first stages of the disease. The diet should be regulated. He said not to give vasodilators and advised the use of the sphygmomanometer to estimate the pressure. It is important to estimate the relation between the degree of blood pressure and the capacity of the heart for work.

### The Care of Surgical Cases.

DR. H. C. TINKHAM, Burlington, thought that the evolution of surgery had been along the lines of antisepsis and asepsis. Text-books say but little about the preparation of the patient or the after-treatment, although of vital importance. Toxemic conditions may arise owing to faulty secretion and elimination due to the nervous system. Sedatives, like valerian and asafetida, and, if necessary, bromid may be given to insure good sleep. To empty the bowels give calomel for two days previous to operation, and, if necessary, salines and enemata. Give no food for eight hours previous to operation, although a cup of clear tea or coffee three hours previously is sometimes advisable. Put the patient in bed after the operation and surround the body with hot-water bottles. Before the patient comes out from under the anesthetic use a high enema of hot normal salt solution and give a cup of water to clear out the stomach. After the patient has recovered from the anesthetic give calomel ½ grain to 1 grain, and repeat every two hours until from 3 to 6 grains have been taken. Twenty-four hours afterward give an enema of 2 ounces of glycerin to the quart of water. Hot water or weak tea only are to be given the first 24 hours. Give enough opium to keep the patient quiet. One-half grain codein, hypodermically, is the best and, if necessary, give morphia. Strychnia is indicated for a few days. Digitalin for weak heart. For shock give adrenalin chlorid. Rare beef, chops and chicken can be given in most cases in three or four days. Twenty-four hours after the operation the patient can be raised to a half-sitting position.

### Tetanus, with Special Reference to Fourth of July Injuries.

DR. C. A. PEASE, Burlington, showed that the severity of the wound has nothing to do with the development of tetanus. The bacilli are more prevalent in the summer, and the small pieces of dirty skin carried into the wound by the wad are the cause of the infection in injuries from blank cartridges. The toxin is one of the most powerful known, a very small quantity only being enough for infection. It acts on the motor cells of the cord, pons, medulla and cortex. The prognosis is unfavorable if the disease develops within nine days. In 1903 THE JOURNAL A. M. A. reported 415 cases of tetanus, with 406 deaths. In 1906 only 89 cases, with 75 deaths. There were many more cases of tetanus from blank cartridge wounds than from any other cause. He gave the results of his experiments on guinea-pigs and rats with the powder and wads from blank cartridges, but only got a positive reaction in one case. The mortality in subacute cases treated with tetanus antitoxin is 43 per cent. and in acute cases 63 per cent. All wounds that are liable to be infected should be treated in the most antiseptic manner, and immunizing doses of at least 10 c.c. of tetanus antitoxin should be injected around the seat of injury.

DISCUSSION.

DR. A. L. MINER emphasized the importance of a thorough examination of the wound and to see that it is cleaned out to the very bottom.

DR. S. E. MAYNARD, Burlington, advocated the use of peroxid of hydrogen as an antiseptic and giving 20 c.c. of antitoxin at first in all gunshot and penetrating wounds.

DR. B. H. STONE, Burlington, stated that bichlorid will not destroy tetanus germs, but peroxid of hydrogen will.

### Trichinosis.

DR. C. H. BEECHER, Burlington, gave a report of 23 cases that had come under his observation the past winter. Only about 900 cases have been reported in the United States in the past 45 years. The parasite, *Trichina spiralis*, has been found alive after 15 months in pickle. It resists a freezing temperature for two months, and sometimes a temperature as high as 180 F. has failed to kill the trichina. About 2 per cent. of all pork is infected. In 505 unselected cases of autopsies that had not died of trichinosis the parasite was found in 5.3 per cent. There is no constant relation between the number of trichinæ and the symptoms. The symptoms are divided into three stages, corresponding to the life of the parasite: 1. The stage of gastrointestinal irritation. 2. The stage of myositis. 3. The stage of subsidence. The first stage usually takes place within a few hours after the ingestion of the infected meat. Vomiting and diarrhea are favorable for the patient. The second stage takes place from a week to ten days after infection. Muscular pains and weakness are the prominent symptoms. The pain is rheumatic in character, and may affect the diaphragm, pharynx and larynx. Edema is very characteristic. Fever is usually present. Sweating is profuse. A marked leucocytosis is present. The increase in white cells may reach 30,000. Convalescence is slow. The mortality varies from 1 to 30 per cent. Involvement of respiratory muscles is very unfavorable. Must make the differential diagnosis of this disease between cholera morbus, ptomain poisoning, rheumatism and typhoid fever. Microscopic examination of the blood and muscle will clear up the case. All pork should be thoroughly cooked. Thorough salting and hot smoking will also kill the parasites. The treatment consists in washing out the stomach and colon with glycerin. Give purgatives, also glycerin, in dram doses, every hour. Hot baths are good for the relief of pain. Sustain the strength of the patient.

### Nephritis.

DR. W. H. LANE, Brattleboro, said that there is no trouble in making a diagnosis in acute Bright's disease with the edema and effusions into the serous cavities, increased blood pressure, scanty, high-colored urine, specific gravity 1025 or 1030, and albumin. The interstitial form begins very insidiously, but usually the first symptoms are swollen feet at night, and a tense and bounding pulse. By examination of the urine the diagnosis can be made. Large amount of acid urine, light colored, low specific gravity, albumin (small in amount), a few hyaline and pale granular casts. Later the urine lessens in quantity, casts and albumin are increased; there is some blood; the urea is diminished. There is slight edema about the ankles, hypertrophy of the left side of heart, without valvular disease. The pulse is hard and resisting. Later there is palpitation, dyspnea and dropsy. Frequently a retinitis develops.

### Complications and Sequelæ of Nephritis.

DR. J. H. BLODGETT, Saxtons River, said that bronchitis and pneumonia are frequent complications, the latter occurring after ether administration. Changes always occur in the blood vessels, Bright's disease being one of the chief causes of miliary aneurism and cerebral hemorrhage in persons between 30 and 40. Anemia, sometimes the pernicious form, may be one of the complications. Uremia is one of the most important complications. The direct cause of this condition is still unknown, although it is thought to be the toxic action of a variety of nitrogenous metabolic products retained in the system. In this condition we get the cerebral symptoms, mania, convulsions, coma and palsies. Uremic dyspnea and gastrointestinal symptoms may be present.

### Treatment of Nephritis.

DR. S. W. HAMMOND, Rutland, emphasized the importance of hygienic and dietetic treatment as well as of the medicinal. Patients should lead a quiet, tranquil life and, if possible, should avoid the cold, stormy weather of the North. Daily warm baths are beneficial. Chlorid of sodium is injurious; also all forms of alcohol. Milk is usually well borne and should be given in quite large quantities; so, too, stale bread, fruits and even eggs. If the urine is small in quantity, give the citrate or acetate of potash, or infusion of digitalis. If there is a small amount of urea excreted, make the skin and bowels do the work of the kidneys. The nitrates are beneficial in the chronic interstitial form. In gouty and syphilitic subjects give the iodids. Kidney decapsulation is still in the experimental stage. The results thus far achieved in this line of treatment have not been flattering.

### Commercial Therapeutics and Commercial Therapeutists.

DR. GEORGE L. BATES, Morrisville, mentioned as of special interest to the physician the question of professional ethics, of life-insurance fees and the proprietary medicine and nostrum evils. He felt that the latter is the cause of the ruin, physically, mentally and morally of more people than is realized. It is the prime factor in the production of many diseases, and it helps to increase the death rate yearly. It is a curse on the nation on account of the hundreds of morphin, cocain and alcohol inebriates it has developed. He commended in the highest terms the work that the Council on Pharmacy and Chemistry of the American Medical Association is doing for the physicians, the druggists and the public. He said it is much better for the physician to depend on his own knowledge than to rely on the ready-made prescriptions sent out by the drug houses.

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## DELAWARE STATE MEDICAL SOCIETY.

*Annual Meeting, held at Wilmington, Oct. 9-11, 1906.*

The President, DR. JOHN PALMER, JR., Wilmington, in the Chair.

### Urges Higher Standard of Education.

HON. LEVIN I. HANDY gave the address of welcome. He referred to the spirit of jealousy that had in times past existed between the members of the profession, and believed that closer association would tend to remove this jealousy and cultivate the *esprit du corps* so much to be desired among the profession. He favored the adoption of the laws now being urged by the society and the profession throughout the state for the raising of the standard of the preliminary education of the physician, and also advocated the adoption of a four years' course in a medical school, which is required by all the surounding states, believing that unless this is done Delaware will be receiving the rejected from the neighboring states.

### President's Address.

DR. JOHN PALMER, JR., Wilmington, reviewed the progress of medicine, the establishment of schools, hospitals, etc., and urged the necessity for organization. He said that the society should endeavor to enroll every eligible physician in its ranks. He stated that there is a tendency to give less medicine and to improve the sanitary conditions. He also dwelt on the antitoxins and similar agents. He deprecated the use of headache powders and other "patent medicines."

### Early Diagnosis of Tuberculosis.

DR. A. ROBIN, Wilmington, said that until recently this condition has been regarded as a fatal disease. Ninety per cent. of all autopsies reveal healed lesions of tuberculosis, and in many cases the disease, he said, could be cured, if taken in the incipient stage. He particularly emphasized the importance of early diagnosis. The susceptibility varies with the individual and has much to do with the nutritional power of the patient. The curability depends largely on the stage of the disease, and the treatment should be directed toward increasing the individual's resistance, careful regulation of the diet and mode of life being essential factors. There may be a predisposition to the disease, and it may be based on anatomical or physiological defects. The most valuable diagnostic signs are rise of temperature in the afternoon, loss of appetite and weight, weakness, dyspnea on exertion, and in the absence of sufficient of these to warrant a diagnosis, the tuberculin test may be resorted to. Microscopic examination frequently will not show the tubercle bacilli until late in the disease, and, while the tuberculin test is difficult of application in private practice, it is generally reliable.

#### DISCUSSION.

DR. PETER W. TOMLINSON, Wilmington, stated that if tuberculosis could always be recognized in its incipiency it would be well to advise the patient to pursue that life which is demanded for the betterment of his condition, and that, even in cases of doubt, it is, perhaps, better to give the patient the benefit of the doubt and advise such measures. He believes that more depends on proper nourishment, fresh air and hygienic measures than on drugs.

DR. PHILIP MARVEL, Atlantic City, N. J., referred to the necessity for more thorough primary physical examinations, in suspected cases, or even in cases of doubt, repeated at short intervals, in order to determine the presence or absence of the disease in its incipiency, when treatment will be of the most avail. In regard to tuberculin, he stated that there is a feeling against its use, and that, while there must be a certain amount of experimental work in order to establish a diagnosis, yet the public desire as little as possible.

### Some Remarks on Gastric Ulcer.

DR. H. A. CLEAVER, Wilmington, stated that there are few diseases of the gastric tract that exceed in importance gastric ulcer. Social history, occupation, climate or nationality seem to have but little influence, although there does seem to be a slight predisposing influence among workers in glass, metal and porcelain. The pyloric region is thought to be the most susceptible to this condition, and among the predisposing factors are embolism, thrombosis, venous stasis, interstitial hemorrhage, ecchymosis of the gastric mucosa, etc. He discussed as causative factors the infectious diseases, such as typhoid, puerperal fever, etc., and also the theory of its causation by digestion, being due to the diminution of resistance in the walls of the stomach or increase in the digestive activity of the gastric juice. The differential diagnosis between gastric ulcer and carcinoma, erosion, duodenal ulcer, hysteria, gallstone colic, etc., was discussed in detail. He contrasted the various kinds of medical treatment with the operative procedures of pyloroplasty and gastroenterostomy.

### The Necessity for Careful and Accurate Diagnosis.

DR. E. S. DWIGHT, Smyrna, deprecated the practice of jumping at conclusions, or the too frequent diagnosis of a disease which happens to be the practitioner's particular hobby. Vague terms should not be employed, but the physician, after a thorough examination, should decide definitely on the conditions present. Urinalysis, and examination of the vagina and rectum should, whenever necessary, be resorted to, and he believes that they are very valuable assistants in many cases.

### Anesthesia: With Report of Five Hundred Cases.

DR. HAROLD L. SPRINGER, Wilmington, stated that age seems to make but little difference, with the exception that it is more favorable in persons under fifty. Ether was used in 88 per cent. of the cases, and chloroform in the remaining 12

per cent., 2 per cent. of the former being started with chloroform. The average amount of ether administered was 2½ ounces; the average time under ether was 15 minutes; vomiting occurred in 25 per cent. of the cases. He believed that the vomiting was due to the direct action of the ether on the stomach, as it did not occur when the anesthesia was produced by chloroform. Oxygen was necessary in 4 per cent. of the cases, and the return to consciousness was more rapid in these cases than where no oxygen was employed. He believes that the use of oxygen with any anesthetic eliminates a large percentage of the danger. Seventy-five per cent. of the anesthesias were for major operations; no patient died from the effects of the anesthetic, and most of the fatal cases were *in extremis* when the patient was placed on the table. Urinary examination was made both before and after the anesthesia. Chloroform, he stated, is more dangerous than ether, especially in the hands of the inexperienced. In all cases, there should be a thorough examination of the heart, lungs and kidneys prior to operation, and in cases of threatened death artificial respiration should be resorted to.

### Newspaper Advertisements.

Resolutions deprecating the fact that the newspapers permitted the advertisement of irregular physicians and quack remedies were taken up, and it was decided that the secretary should communicate with the various newspapers, calling their attention to the improper publications and asking their discontinuence.

DR. EMERY MARVEL, Atlantic City, N. J., referred to the action of the New Jersey State Medical Society in reference to the use of nostrums, and stated that the action of the lay papers, particularly *Collier's Weekly* and the *Ladies' Home Journal*, in exposing these remedies have been productive of good results. He recommended that the Delaware State Medical Society express its feeling in regard to this matter.

He also referred to the matter of life insurance examination fees, which were discussed at the last meeting of the New Jersey State Medical Society, and the unanimous consensus of opinion seemed to be that examinations would not be made for such small fees as are now being paid. He also referred to and strongly condemned contract practice.

### Requirements for Licensure to Be Raised.

The society then endorsed a bill to be presented to the next session of the legislature, increasing the standard of requirements for a license to practice medicine, and instructed the secretary to communicate with the members, urging them to elect members favorable to the proposed law.

The work of the Delaware Tuberculosis Society was endorsed.

### Officers Elected.

The following officers were elected: President, Dr. John W. Clifton, Smyrna; vice-presidents, Dr. Frank L. Springer, Newport, and Dr. Luther S. Conwell, Camden; secretary, Dr. George W. K. Forrest, Camden; treasurer, Dr. William G. Winner, Wilmington.

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## *Therapeutics*

**[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulæ and outlines of treatment are answered in these columns.]**

### Burns.

The treatment of burns, according to Prager, in the *N. Y. Med. Jour.*, may be divided into the local and general treatment.

#### LOCAL TREATMENT.

The indications are: 1. To overcome the shock and to relieve the pain. 2. To guard against congestion and inflammation of internal organs. 3. To prevent sepsis from the absorption of the toxins of the sloughing tissue. 4. To counteract the exhaustion incident to such suppuration. In the treatment of burns of the first degree the author recommends some application which will tend to soothe the injured part. For this purpose olive oil or linimentum calcis (Carron oil, a mixture of linseed oil and lime water), serves a good purpose.

The best and simplest remedy, according to Prager, in the treatment of burns of the first degree is powdered sodium bicarbonate dusted freely over the surface of the wound. It is well to exclude the air in all cases by the application of a protective dressing.

As an emergency dressing in burns of even the second degree, ordinary molasses is recommended, which is best applied by soaking pieces of blotting paper one-half inch by two inches in the molasses and laying them evenly on the surface. They must overlap each other, and when sufficiently dry they serve as an excellent covering. Sodium bicarbonate may be added to this dressing by dusting over the surface after the dressing has been applied. The sugar in the molasses, according to Prager, serves as an excellent antiseptic. When vesication is present with inflammation of the skin with the formation of bullæ, strict asepsis must be employed. These vesicles must be punctured at the base, drained of their contents as the serum is irritating in character. The cuticle, however, should not be removed, as it serves as a protection. The area should be thoroughly cleansed with a bichlorid solution from 1-10,000 to 1-20,000, and after such cleansing it should be covered by sterilized rubber tissue over which gauze and bandage are applied. The dressing should be changed only once in every two or three days unless the odor is distinct or the discharge great.

When the area is extensive and is of the second or third degree, the author commends very highly the value of a continuous hot bath at a temperature of 100 F., and kept at such temperature for several days. It gives almost instant relief to the sufferer by protecting the surface from the air and prevents decomposition.

In the treatment of lesions of the third degree which are local in extent, the area should first be thoroughly disinfected with a 1-2,000 bichlorid solution or a 1-40 carbolic acid solution, and at the same time all the necrosed tissue should be removed. This procedure, according to this author, will have to be carried out under an anesthetic. An antiseptic powder in burns of such a degree is preferable to ointments as a dressing, as it has greater power to prevent suppuration.

For this purpose he recommends the following combination:

℞. Iodoformi ..... 3i 4|
Acidi borici ..... 3vii 28|
M. Sig.: Apply locally over the area involved.

This powder can not be used over extensive surfaces for fear of iodoform poisoning, especially in cases of young children. In addition, the author recommends zinc oxid or bismuth as of value as a local dusting powder.

In the treatment of *x*-ray burns the lesion must be kept clean, and all dressings must be thoroughly aseptic, as the weakened condition of the adjoining areas renders these cases much more susceptible to infection. He recommends in these cases an application of a 1 per cent. watery solution of picric acid which lessens the pain and assists in healing. In severer cases the treatment should be along the lines of ordinary burns.

Leweson, in the same periodical, recommends the ordinary lead and opium lotion as a local application in burns of the first degree. In more extensive burns he recommends a solution of aluminum acetate which is very cooling, antiseptic and astringent in its action. This may be used in strength of 6 per cent., applied on gauze and kept moist in order to prevent the gauze from adhering. After applying this solution for 24 hours a powder should replace it as a dressing. For this purpose Leweson recommends the following:

℞. Zinci oxidi ..... 3ii 8|
Bismuthi subnit. ..... 3iv 15|
Lycopodii ..... 3i 4|
M. Sig.: To be applied locally freely.

In burns of the second degree he recommends the linimentum calcis (Carron oil), and after from 24 to 36 hours changing to the boric acid ointment, which should be applied until the upper layer is repaired, to be followed by the application of the foregoing dusting powder or bismuth subgallate.

In burns of the third degree the wounds must be treated as any ordinary wounds. Wet dressings of saturated solution of boric acid are useful. If sloughing is present the wounds should be trimmed, and if stimulation is necessary to hasten healing, the author recommends a dressing of balsam of Peru around the edges as follows:

℞. Balsami Peruviani .....3i 4
Olei ricini .....3v 20

M. Sig.: Apply locally along the edges of the burns.

If the wounds are clean he recommends the use of silver foil, covering the area completely and in some cases skin grafting must be resorted to.

T. P. Dale, in the same periodical, states that the important things to keep in mind in the treatment of burns are: 1, The relief of pain; 2, absolute cleanliness; 3, the promotion of healing.

In severe cases a hypodermic of morphin may be necessary to relieve the pain, and after the initial shock the following combination will, as a rule, be sufficient to give relief:

℞. Chloralis hydratis.....gr. x |65
Sodii bromidi .....gr. xx-xxx 1|30-2

M. Sig.: To be given at one dose and repeated every three hours in water until relief is obtained.

In some cases a general anesthetic may have to be given on account of the pain. Usually a hypodermic injection of morphin administered 15 minutes before the time for dressing will suffice.

In order to preserve cleanliness moist applications must be applied. The following is recommended for this purpose, the aluminum acetate solution made up as follows:

℞. Plumbi acetatis.....ʒss 15|
Aquæ q. s. |

And:

℞. Alumini sulph. .....3i 4|
Aquæ q. s. |

M. and add to the lead solution. Sig.: Pour off the solution from the precipitate and apply to the burn on antiseptic dressings.

A saturated solution of boric acid may be substituted for the foregoing, applied lukewarm, and keeping the dressings constantly moist.

Dale recommends that the wound be cleansed daily with a 50 per cent. solution of hydrogen peroxid to aid in the removal of any secretions, to be followed by the application of moist dressings.

To promote healing, when the granular surfaces are fairly healthy he recommends an astringent ointment as follows:

℞. Zinci oxidi .....3i 4|
Petrolati liq. q. s. ad.....ʒi 30|

M. Fiat unguentum. Sig.: Apply locally to the part involved.

The following combination is also recommended as a similar dressing:

℞. Ichthyoli .....3i 4|
Zinci oxidi
Petrolati liq., āā.....3iv 15|

M. Fiat unguentum. Sig.: Apply locally.

CONSTITUTIONAL TREATMENT.

In severe cases Prager states that stimulants may have to be administered, such as strychnin gr. 1/30, every four hours, or alcohol and ether given hypodermically. Leweson advises aromatic spirits of ammonia; alcohol in some form; strong coffee; attention to elimination, and the application of heat.

### Administration of Lupulin.

As a substitute for opium, which is contraindicated in the treatment of enteralgia on account of the constipation it is liable to produce, Stern, in the *Medical Record*, recommends the employment of lupulin in the treatment of colicky pains. In mild cases he recommends the following combination:

℞. Lupulini .....gr. iiss |15
Acetanilidi .....gr. iss |09

M. Fiat capsula No. i. Sig.: Three such capsules every three hours. Or:

℞. Lupulini .....gr. xl 2|65
Hyoscyaminæ salicylatis .....gr. 1/100 |0006

M. Fiat capsulæ No. xx. Sig.: One capsule every three or four hours.

In nervous individuals suffering from severe attacks of enteralgia the following combination is recommended:

℞. Lupulini .....gr. iv |25
Codeinæ sulph. .....gr. 1/6 |01
Atropinæ sulph.....gr. 1/200 |0003

M. Fiat capsulæ No. xx. Sig.: One capsule every hour if necessary.

In cases of nervous diarrhea the following combinations are advised:

℞. Lupulini |
Strontii bromidi, āā.....gr. iiss |15

M. Ft. capsula No. i. Sig.: Two such capsules three to five times a day. Or:

℞. Lupulini .....gr. v |30
Pulv. ipecacuanhæ.....gr. 1/3 |02

M. Fiat capsula No. i. Sig.: One such capsule four to six times a day.

In order to lessen tenesmus and decrease the pain the following combination is recommended:

℞. Argenti iodidi.....gr. iii |20
Pulv. belladonnæ fol.....gr. iss |09
Lupulini .....gr. xv 1|

M. Ft. suppos. No. x. Sig.: One suppository at bedtime and, if necessary, one also at midday, to be inserted as high up in the rectum as possible.

## *Medicolegal*

### Malpractice and Aggravation of Damages in Injury Cases.

The Supreme Court of Minnesota says, in the personal injury case of Vion vs. Brooks-Scanlon Lumber Company, that the mere fact that injuries caused by the negligence of the person sought to be charged have been increased by the negligence of an attending physician does not relieve that person of consequent liability. The defendant and the physician in such a case are not joint tort-feasors (wrongdoers); there is concert neither in project nor in action between them. Each is individually liable. Their several liabilities do not prevent recovery from either or both, although they may necessitate separate proceedings to enforce the injured person's right to sue. Indeed, there are authorities which hold that the injured person may recover from the negligent defendant the full amount of his actual damages, although they may have been aggravated by the malpractice of the physician whom he employed, and whose directions he followed in the exercise of due care. The court, however, finds it unnecessary in this case to pass on the correctness of this rule, but it holds that the fact that, before suit is brought against the negligent defendant, the injured person settles a claim against his attending physician for malpractice does not operate to relieve the party originally guilty of negligence of liability.

In this case the plaintiff had a tram car fall on him, striking him across the back and hip. He settled a claim for malpractice by the physician who treated his injuries caused by the defendant's negligence for $242.40. The judge charged the jury: "The plaintiff having settled with his attending physician for alleged improper treatment, he can not recover of the defendant for any aggravation of damage caused by the doctor's improper treatment. The plaintiff can only recover such damages as proximately result from the defendant's negligence aside from any aggravation of damages caused by the negligence of the attending physician. For any condition from which the plaintiff is now suffering and which is to be referred to improper treatment by his attending physician, he has received satisfaction and he can not recover of this defendant therefor." A verdict of $12,500 was reduced by the trial court

to $8,500, which was accepted by the plaintiff. The Supreme Court holds that the charge quoted contained no just ground of complaint by the defendant, and that the final award of damages was not excessive nor void, because the plaintiff did not bear the burden of tracing his damages to the defendant as their proximate cause.

Nor was the verdict void because it rested on mere conjecture. The difficulty of eliminating from the aggregate damages that part which is due to the malpractice of the physician is admittedly great; but it is not greater than occurs, for example, in actions against joint tort-feasors. Nor is it greater than is involved in more nearly analogous cases of aggravated damages, as where the plaintiff was guilty of negligence in failing to exercise due care in securing medical or surgical aid (Louisville, etc. R. Co. vs. Falvey, 104 Ind. 409), or as where he has negligently failed to comply with the directions of his attending physician (Keyes vs. Cedar Falls, 107 Iowa, 509), or as where his own negligence generally has increased his damages (C. & E. R. R. Co. vs. Meech, 163 Ill. 305; Fullerton vs. Fordyce, 144 Mo. 519; Plummer vs. City, 79 Mo. App. 439; Throckmorton vs. M. K. & T. Ry. Co., 14 Tex. Civ. App. 222), and see Strudgeon vs. Village, 107 Mich. 496. In all these cases cited there has been allowed recovery of damages of which the defendant was the proximate cause, excluding the aggravation of damages due to negligence of the plaintiff. It is inevitable that the determination of damages in all cases of personal injuries is indefinite and unsatisfactory. In no such case is a mathematical calculation possible. The matter must rest largely in the exercise of good judgment by the jury and of the sound discretion of the courts. The result is as close an approximation to justice as is permitted by our system of jurisprudence. The charge was within the spirit of the authorities cited and of the authorities on the general subject.

### Points About Law Relative to Vaccination.

The Supreme Court of Pennsylvania, speaking through Chief Justice Mitchell, says that the substantial question in the case of Stull vs. Reber and others, was whether the act of 1895 requiring the exclusion from the public schools of children who have not been vaccinated, is a valid exercise of the police power of the state. It has been twice so decided by this court. In Duffield vs. School District of Williamsport, 162 Pa. 476, a similar regulation, not even enacted by the legislature, but enforced by the school directors under an ordinance of the city of Williamsport, was held valid. And in Field vs. Robinson, 198 Pa. 638, this very statute was held constitutional. However, it appeared to be thought that because the decision was given in a brief opinion "per curiam" (by the court) the subject was not fully considered. But the proper inference is precisely the reverse, that the conclusion was so perfectly clear to the whole court that it did not require any extended argumentative support. After these two decisions the question ought to have been considered as closed.

The terms of the act applying expressly to the "several municipalities" of the state, it was argued that they did not include school districts in townships and, therefore, made an unwarranted distinction in regard to such districts. But the separate classification of school districts in cities and boroughs with reference to public health where population is dense and the danger of contagion great would not be unconstitutional. However, this act is in no proper sense a regulation of school districts. What bearing it has on schools and school districts is altogether incidental to them as constituents of the community. The constitutional restrictions on special legislation apply to direct legislation, not to the incidental operation of the statutes constitutional in themselves on other subjects than those with which they directly deal.

As to the contention that the constitutional provision requiring the maintenance of an efficient system of public schools wherein all children above the age of 6 years may be educated is violated, it is sufficient to say that this article, like all others, must be construed and applied in connection with other fundamental governmental powers. The schools and school children, important as they are, are only fractions of the community and the police power of the commonwealth in the preservation of the public health must, if necessity arises, sacrifice the less to the greater interest. Salus populi suprema lex (the welfare of the people is the supreme law). If a child manifestly suffering from smallpox in its contagious state should be excluded from school, it is hardly conceivable that the propriety of such action should be questioned. At what period before or after the outbreak of the disease the right of exclusion should arise is a legislative, not a judicial question.

Nor does the court think that sections 11 and 12 of the act, which act is entitled "for the more effectual protection of the public health in the several municipalities of the commonwealth," should be read together, and the right under section 12 to exclude unvaccinated children be confined to the schools in the districts mentioned in section 11, namely, those in which smallpox is actually prevalent. There was a finding in this case that there was not, and had not been for a period of about 40 years, any person in the borough, or within many miles thereof, suffering from smallpox (variola or varioloid). It was argued that this feature distinguished the case from those before decided by this court. But the court thinks that the legislature may well have had in mind that the good fortune of such a community may not continue indefinitely. Immunity for 40 years in the past affords no guaranty of immunity for even 40 days in the future if a chance visitor from an infected locality or a borough resident returning from a visit to such locality, should bring with him the germs of infection. Section 12 is precautionary and preventive, and it is an old and sound maxim that an ounce of prevention is worth a pound of cure.

There is one hardship in section 12 that may deserve consideration with a view to possible remedy. The court below found as a fact "that occasionally it is beyond the power of children of school age, as well as adults, to be vaccinated, although they may not previously have had smallpox nor previously been vaccinated; that even repeated attempts to perform the operation of vaccination on such children or adults is without effect, and vaccination will not take. In such cases vaccination is not successful and a physician can not certify that such child or adult has been successfully vaccinated." The health authorities, state or local, might well consider whether they have power to make a regulation as to what should be deemed a successful vaccination or its equivalent; whether the ratio of such immune children is of sufficient importance to justify the exercise of such power if possessed, and whether such regulation would be undesirable as affording opportunity for the evasion of the statute. The latter, however, are medical and administrative, rather than judicial, questions.

Lastly; it was argued that, construing section 12 as the court has done, it authorizes a trespass on the reserved rights of the individual which are beyond the reach of even the police power. Vaccination, it was said, is the infliction of a disease, cowpox, on the subject, and if that can be done irrespective of his consent, then the next step may be to require submission to inoculation with antitoxin or serum for diphtheria, tuberculosis, cancer, etc. But it will be time enough to consider such matters when they arise. At present the vast preponderance of opinion among intelligent and educated people, under the guidance of the best medical authority, is that vaccination is a highly useful ameliorative if not always a preventive of one of the greatest scourges that have in past times afflicted humanity, and that the regulation of it by statute is not only a justifiable but a wise and beneficent exertion of the police power over the public health. When the legislature goes beyond that into new or more debatable fields, it will be time enough to consider the limits of its power.

One expression of the court below, and in some of the cases cited in the argument, requires a passing note. The act is not a penal statute. It is a broad, general act relating to the health of the whole population of the commonwealth. It is not, therefore, to be construed or administered by the rigid technical rules applicable to penal laws, but fairly according to its intent, neither narrowing it to the letter, to the exclusion of cases clearly within such intent, nor stretching it beyond its legitimate scope to cover matters not clearly meant to its intent, neither narrowing it to the letter, to the exclu- rights and privileges and, therefore, specially requiring a common sense administration.

# Current Medical Literature

## AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

### Medical Record, New York.

*November 3.*

1 *The X-ray in the Study of Congenital Malformations. J. W. Pryor, Lexington, Ky.
2 *Importance of the Treatment of Chronic Otorrhea. S. Oppenheimer, New York.
3 *Suppression of Tuberculosis. J. B. Nichols, Washington, D. C.
4 *Enucleation; Some Uncalled-for Disfiguring Operations Resulting from Failure to Recognize Accessory Sinus Disease. H. M. Fish, New York.
5 *Contractures and Muscular Atrophy. G. Norström. New York.
6 When is "Early" in Operating for Appendicitis? A. M. Pond, Dubuque, Iowa.
7 *Modern Treatment of Intracapsular Fractures. W. L. Hunt, Bangor, Me.
8 *Method of Operating on the Lip. C. F. Buckley, Brooklyn, N. Y.

1. **X-Ray in Study of Congenital Malformations.**—Pryor declares that it would be difficult to estimate the value of the *x*-ray as a means of diagnosis. This method is particularly useful in the case of bone injuries; and in congenital malformations it is the only positive means of making an exact anatomic diagnosis. He has examined two cases of polydactylism.

2. **Importance of Treatment of Chronic Otorrhea.**—Oppenheimer states that destruction of the mastoid interior is by far the most frequent result of untreated otorrhea. A not uncommon result is phlebitis and thrombosis of the smaller veins related to the diseased parts. Either the large venous channels, such as the sigmoid sinus or the jugular vein lower down in the neck, may become the seat of purulent thrombosis. Again, the brain tissue with its covering and blood vessels is often affected. Caries and necrosis of the ossicles or temporal bone are present in the larger number of cases of chronic aural suppuration which have not received proper care. The walls of the tympanic cavity, especially of the attical regions, may become involved. The general health of the individual is usually below par.

3. **Suppression of Tuberculosis.**—Nichols declares that the maintenance of sanatoriums accomplishes results along the line of quarantine. Proper care and disposal of the sputa should be rigidly and universally practiced and enforced. Another means of preventing access of the bacilli consists in the control of milk and food supply. As to the efficacy of the registration and allied measures the final criterion must rest on the results of actual trial. Both the health department and practicing physicians have had a part in the reduction of the tuberculosis death rate. The task of stamping out tuberculosis, however, offers enormous difficulties.

4. **Results of Failure to Recognize Accessory Sinus Disease.**—Fish declares that were the ophthalmologist to regard a retro-ocular edema, the involvement of an external muscle, a sluggish pupil, and an idiopathic inflammatory condition about the orbit or within the globe as a symptom of disease of the accessory sinuses, unfortunate enucleations might be avoided, and in many instances the function of the eye be preserved. Fish cites the history of several cases in which failure to recognize accessory sinus disease resulted in the unnecessary disfiguring operation of enucleation.

5. **Contractures and Muscular Atrophy.**—Norström attributes most of his success in the treatment of muscular atrophy to massage.

7. **Treatment of Intracapsular Fractures.**—Hunt reports three cases of intracapsular fracture, in which the Maxwell method of treatment was practiced. By this method a severe injury is turned into a milder one that is not usually fatal, except in the very debilitated. The treatment consists in the old downward extension with adhesive straps with side traction at the groin, carrying a pull upward, outward and forward. This takes up the weight of the thigh to a certain extent, holds it opposite the point of fracture, and draws the capsule like a tight sleeve over the fragments, holding them in place.

8. **Method of Operating on Lip.**—Buckley illustrates his method by a diagram. It is especially useful in cases in which local anesthesia is employed for the removal from the lip of benign growths or of those which are malignant without glandular involvement. A pair of Murphy intestinal anastomosis clamps, with their blades sheathed in rubber tubing to protect the engaged skin and mucous membrane, are employed. The edges of these clamps are placed about three-eighths of an inch from the line of proposed incision. After the anesthetic is injected, the growth is excised. Sutures are inserted, the clamps are removed and the dressing is applied. In this operation no assistant is required.

### New York Medical Journal.

*November 3.*

9 The Scientific Foundation of Modern Treatment of Disease. J. V. Shoemaker, Philadelphia.
10 Plea for Conservatism in Electrotherapeutics, with Remarks on Dosage. A. D. Rockwell, New York.
11 *Rational Treatment of Chronic Constipation. D. H. Murray, Syracuse, N. Y.
12 *Two Unusual Cases of Varix. De W. Stetten, New York.
13 Four Cases of Chronic Atrophic Paralysis. W. W. Losem, New York.
14 Case of Ruptured Tubal Gestation Sac, with Secondary Attachment of the Ovum to the Cecum. W. H. Wells, Philadelphia.
15 Use of the Cold Wire Snare in the Removal of Faucial Tonsils. H. P. Moseley, New York.
16 *Possible Dissemination of Tubercle Bacilli by Insects. S. E. Weber, Lancaster, Pa.
17 Artificial Cycloplegia in Errors of Refraction. M. L. Benoit, New York.

11. **Treatment of Chronic Constipation.**—When operations do not cure and when surgical procedures are unnecessary, Murray employs the following treatment, which is given every fourth day: The patient is placed in the Sims position, an electrode after the pattern of Ewald with a perforated soft rubber shield is passed into the sigmoid. The rectal electrode is connected from its binding post to the positive pole of the battery, and rubber tubing connects it also with an irrigator, filled with normal saline solution, which is elevated about three and a half feet above the patient. The rapidity of the flow of normal saline is controlled by a stop cock in the electrode. The negative electrode is made of sheet lead large enough to cover the abdomen, and is well padded with a towel wrung out of hot normal saline solution. The electric saline douche washes all fecal débris and mucus from the intestinal mucosa, leaving a clean surface for medication.

This part of the treatment occupies from ten to twelve minutes, and from 30 to 64 ounces of normal saline solution is thrown into the sigmoid and descending colon. The patient is then allowed to go to the toilet, where a free evacuation takes place, leaving the intestinal mucosa clean. After this the patient returns to the table for the last half of the treatment. This consists in throwing one ounce of an emulsion of olive oil (1 pint), iodoform (1 dram), bismuth subnitrate (2 ounces) into the descending colon through a Wales bougie or a special tube which Murray has devised. This is followed by from one to two ounces of some dilute astringent or antiseptic solution of hydrastis. The iodoform is omitted from the emulsion if the patient has an idiosyncrasy that would make its use inadvisable. After throwing the medicament into the sigmoid, the patient is kept for about ten minutes on the table, which is so tipped that the hips are elevated considerably, allowing the emulsion to gravitate high up in the colon.

When this treatment is begun, patients are ordered to stop the use of all laxatives. They are instructed to go to the toilet at a regular hour each day and to make an honest effort to stool, taking 15 or 20 minutes, if necessary, using gentle pressure, but never to strain. Failing in this, the patient is directed to use an enema of plain water or normal saline in order that the bowel may be educated to empty itself at a regular time. While under this treatment patients are allowed liberal diet. Excess of pastry, confections and condiments are prohibited; and they are directed to drink at least six glasses of water daily.

12. **Unusual Cases of Varix.**—The first case reported by Stettan is one of progressive phlebectasis of the lower extremity which had existed since birth. The development of painful and sensitive purpuric spots and edema of the ankle, with slight interference in walking, were the main symptoms at first. Later, the patient suffered considerably from the forma-

tion of painful thrombi in the dilated veins. The second case was one of obliterating endophlebitis secondary to typhoid.

16. **Dissemination of Tubercle Bacilli by Insects.**—Weber is convinced that tubercle bacilli after being expelled from the respiratory tract of a cow through the act of coughing may be disseminated by insects, especially the *Clothilla ocelloria*. In a series of microscopic examinations of the contents of the stomach and alimentary canal of these insects Weber confirmed his suspicions by finding a specimen harboring the tubercle bacilli. The discovery was made only after patient search through some 3,000 specimens which were taken from mangers, feed chests and other surroundings where tuberculosis was present in cows. Weber says:

As an example in the transmission in bacteria, let us watch the manger of a tuberculous cow depositing sputum containing tubercle bacilli mixed with meal, and drying on the woodwork about her stall. Now if a swarm of these insects comes along, what happens? They are voracious feeders, and in a remarkably short time will chew up and fill their stomachs with the crusted admixture of saliva, sputum, and meal attached to the troughs and other surroundings, as the case may be. These insects are very shy and run very rapidly if disturbed, and may be followed to the farthest corner of the barn, or even to the haymow and granary above it in a very few minutes. They are extremely delicate and may be easily crushed, which occurs in the hay and other feed. By that means the contents of their stomachs may be conveyed to other animals. If such ingestion of contaminated material happens to be about the time of hibernation, the danger is much increased, for then we find them in the hay by myriads and also in straw. At this period they may also be found in the stem of timothy and in clover heads, where they are protected from losing their resting place by handling of the hay. I have found the species of the genus *Clothilla* (Westwood) and *Lepinotus inquilinus* (Hayden) common in all kinds of buildings, but less abundant in the stables of cities than in the country barn.

### Boston Medical and Surgical Journal.

*November 1.*

18 The Growth of Truth as Illustrated in the Discovery of the Circulation of the Blood. W. Osler, Oxford.
19 *Classical Symptoms of Hysteria. P. Janet.
20 *Flexible Balancing Shoes. L. R. G. Crandon, Boston.
21 *Epidemic Cerebrospinal Meningitis. E. L. Hunt, Worcester, Mass.

19. **Classical Symptoms of Hysteria.**—In this paper Janet discusses the fugues or ambulatory automatisms, and the polydeic somnambulism; the double personalities, and the fits, sleep states and artificial somnambulisms.

20. **Flexible Balancing Shoes.**—Crandon makes a plea for wiser shoeing, to establish a method of shoeing which will allow free and natural foot action. Such a shoe should be flexible. The crutch or splint effect must be eliminated. The shank of the shoe should be of leather only. This flexibility, he says, allows the foot to accommodate itself to uneven surfaces, and gives freedom to plantar motion, which is desired. Fixed planes in the shoe should be abolished. The shoes should always be low cut to allow free ankle movement. Crandon places main dependence for reform and foot education on barefoot walking in the grass, barefoot toe and heel exercises morning and night, exercises of grasping action with bare feet in the air, and passive motion and massage to restore flexibility. For the patient who is not carrying too much weight for his muscles, for the patient who has potentiality left in foot and calf muscles, this treatment suffices.

21. **Epidemic Cerebrospinal Meningitis.**—The results of Hunt's study are summarized as follows: 1. The *Diplococcus intracellularis meningitidis* of Weichselbaum is the essential etiologic factor in epidemic cerebrospinal meningitis. 2. The diagnosis may be made positively in nearly all cases by the examination of the spinal fluid obtained during life by lumbar puncture, and in no other way. 3. It is probably an inhalation disease and is, therefore, preventable.

### St. Louis Medical Review.

*October 27.*

22 Note on Boric Acid Relative to Appendicitis. R. Harrison, London.
23 Origin of the Custom of Salutation After Sneezing. J. Knott, Dublin, Ireland.

### Lancet-Clinic, Cincinnati.

*November 3.*

24 Cystic Irritation in Women—Some Considerations for Its Management. C. D. Palmer, Cincinnati.

### Annals of Surgery, Philadelphia.

*October.*

25 *Filariasis. J. H. Cunningham, Jr., Boston.
26 Radical Cure of Femoral Hernia. W. B. Coley, New York.
27 *Cysts of the Urachus. W. R. Welser, Springfield, Mass.
28 *Value of the Indigo-Carmin Test as an Aid in the Diagnosis of Partial and Total Ureteral Occlusions. E. Beer, New York.
29 *Arteriovenous Anastomosis. J. C. Hubbard, Boston.
30 *Prostatectomy in Two Stages. C. H. Chetwood, New York.
31 *The Female Prostate. C. E. Barnett, Ft. Wayne, Ind.
32 *Teratomata of the Inguinoscrotal Region. D. C. Hilton, Lincoln, Neb.
33 *A Method of Drainage of the Ankle Joint. P. R. Bolton, New York.
34 *Sarcoma and Myoma of the Stomach. J. L. Yates, Milwaukee, Wis.

25. **Filariasis.**—Cunningham reports a case which was treated surgically. He says that the relatively large number of cases treated medically, and the little benefit so obtained, leads one to hope that more cases may receive surgical treatment. Even though the parent worms are not found, as in Cunningham's case, they may be retained within the diseased mass and escape detection, the embryos disappearing from the blood, and the individual remaining free from his symptoms. On the other hand, when the parent filariæ are known to be left, alleviation of the symptoms has followed by overcoming the stasis and regurgitation of chyle.

27. **Cysts of Urachus.**—Weiser reports three cases which are typical of the more serious type of these cases by reason of their considerable size and their dipping down into, and being adherent to, the pelvic viscera. Their being in each case extraperitoneal, with bladder attachment, makes the diagnosis conclusive. Weiser says that Tait's technic is naturally depended on largely in the treatment. Incision and drainage are the first essentials. A large proportion of these cysts can not be extirpated, and Tait used irrigation and mopping with iodin. In two of his cases Weiser simply irrigated and drained, with good recovery. The detached peritoneum is troublesome, but, as suggested by Douglas, may be sutured back to the parietes, then to omentum, or excised and spread over the gap.

28. **Indigo-Carmine Test of Ureteral Occlusions.**—According to Beer, the cystoscopic study of the behavior of the ureteral orifices does not suffice for the diagnosis of ureteral obstructions. The cystoscopic study of the ureteral jet, especially if the urine is normal, is equally insufficient. Ureteral catheterization *per se* can not determine the presence of ureteral obstruction. Similarly the indigo-carmin test *per se* is as adequate as ureteral catheterization *per se*, because though the ureter be patent, indigo-carmin may not be excreted if the kidney under examination is diseased. On the other hand, ureteral catheterization conjoined with the indigo-carmin test is a very satisfactory method of determining the presence or absence of a ureteral obstruction as well as the degree of patency of the ureter.

29. **Arteriovenous Anastomosis.**—Hubbard reports a case of arteriovenous anastomosis in a man, 80 years old, who came to the hospital for gangrene of the middle toe of the right foot. The gangrene was kept dry, but slowly progressed so that the middle toe sloughed off and the neighboring toes became involved in the process. An arteriovenous anastomosis was done, but an amputation of the leg had to be done four weeks later to remove the gangrenous portion of the foot. Both anterior and posterior tibial arteries contained arterial blood, which spurted out from the cut ends with fairly good force. The veins did not appear to contain any arterial blood.

30. **Prostatectomy in Two Stages.**—Chetwood reports his observations made during the past year in a class of cases of prostatic surgery which may be described as bad risks, or those which go to make the mortality rate of any operator high. A summary of these cases shows that the ages of the patients were, respectively, as follows: 80, 53, 79, 77, 67, 69, 65, 70, the average being three score years and ten. Two of them, in the neighborhood of 80 years, were exceedingly feeble, and were considered questionable risks on this score. One gave evidence of advanced renal implication. Three others were emergencies, in that they had for several days suffered from acute retention relieved by aspiration. One of these had infiltration of urine in the prevesical region and two of them intravesical hemorrhage. Three other patients were soft, flabby, neurotic and more or less broken down in health, and would be classified as poor surgical risks on this account. All of them were submitted to complete radical removal of the prostate, after preliminary drainage, with one exception, in

which instance, on account of the serious kidney complication, the galvano-cautery technic was employed. All of them, up to the present, have done remarkably well, the last reports dating from several weeks to twelve months after operation. Chetwood lays particular stress on the great value of formaldehyd gelatin as a local hemostatic. It is his custom to employ it after all perineal operations, and since its use he has never had serious hemorrhage.

31. **Female Prostate.**—Barnett found, after having made a number of female bladder dissections, that the deep urethral glands of the female were located midway between the neck of the bladder and the external urinary meatus; placed laterally to the urethra, above the vesicovaginal fascia, and having ducts which empty just internal to the external meatus. When hypertrophic, the gland encroached on the bladder neck, the changes in shape during hypertrophy being similar to the male prostate during its outcroppings of lobules. He reports three cases in which these glands were inflamed.

32. **Teratomata of Inguinoscrotal Region.**—Hilton reports one case and reviews the cases previously recorded in the literature.

33. **Drainage of Ankle Joint.**—The plan adopted by Bolton in several more recent cases consisted in excision of the astragalus and the drainage of the ankle through the space so created. The astragalus itself is most accessible through an incision over its head parallel to and to the outer side of the extensor tendons made with the foot strongly adducted. Through this the neck is seized by heavy forceps and drawn on while the attached ligaments are divided and the bone freed and removed. Counter openings can now be made behind on either side of the tendo Achillis and drainage tubes placed in them. After thoroughly cleansing the joint cavity and taking care of the bone injuries, the space is packed with gauze through the anterior opening, and the latter kept open by the end of the gauze packing. The foot is then brought into proper position and enveloped along with the leg in a bulky dressing and placed in a gutter splint. The first dressing is made about the fourth or fifth day, not sooner, unless special reasons develop, and subsequent dressings at intervals of about three days. The final result shows an ankle in which there is slight motion, the foot at right angles to the leg, and the distance from the knee to the under surface of the heel shortened from about three-eighths to one-half inch. Since adopting this method Bolton has not seen a cellulitis of the leg develop and he has not been compelled to amputate in a single instance.

34. **Sarcoma and Myoma of Stomach.**—Yates reports three cases from Ochsner's clinic which illustrate the early development of a myoma as well as the two main clinico-pathologic groups into which primary gastric sarcoma may be divided, the one clinically indistinguishable from carcinoma, the other relatively benign and at times capable of preoperative recognition. Yates concludes that sarcoma of the stomach, though an uncommon affection, is less rare than has been supposed. The diagnosis of the round-cell varieties is practically impossible, though its existence under certain conditions might be suspected. Those of the spindle-cell type should be frequently recognized and often suspected. In either case the early recognition of a purely surgical condition is in the majority of instances easy. Since prompt radical treatment offers not alone the best, but also the only hope of permanent relief, without a forbidding immediate mortality (which now should not exceed 10 per cent.), procrastination here, as in all cases of suspected malignant disease, is in keeping neither with science nor humanity.

**University of Pennsylvania Medical Bulletin, Philadelphia.**
*October.*

35 *Abscess of the Brain. W. G. Spiller, Philadelphia.
36 Mett's Method for Estimating the Activity of Pepsin. J. Sailer and C. B. Farr, Philadelphia.
37 *Aneurism of the Arch of the Aorta Producing a Broncho-Esophageal Fistula. A. O. J. Kelly and R. S. Lavenson, Philadelphia.
38 *Floating Kidney: Its Significance and Treatment, with Special Reference to a Method of Performing Nephropexy. H. D. Beyea, Philadelphia.
39 *Study of the Nature of the Micro-Organisms Found in the Mouths and Throats of Healthy Persons. J. B. Rucker, Jr., Philadelphia.

35. **Abscess of the Brain.**—Spiller reports five cases. The first case, one of sinus thrombosis with the symptoms of brain abscess, occurred in a young man, 15 years of age, who made a complete recovery after operation. The second case, one of otitis media of long standing with symptoms of brain abscess of short duration, occurred in a man of 68 years of age. Death ensued three days after the evacuation of a cerebral abscess in the sphenotemporal bone. The third case, a cerebellar abscess from occlusion of the posterior interior cerebellar artery, was not recognized during the patient's life. At the autopsy there was found embolism and aneurism of the left posterior inferior cerebellar artery, with fibrosis of the left cerebellar hemisphere and two abscesses of the left cerebellar lobe. The fourth case also came to the postmortem table, when it was found that there was a tuberculous meningitis, with miliary tuberculosis of both lungs, which had caused symptoms of brain abscess. The fifth case was one of abscess of the left temporal lobe. The abscess was evacuated, but the patient died.

37. **Aneurism of Arch of Aorta.**—The patient, whose case is reported by Kelly and Lavenson, was a woman 37 years of age, who began to have pain in the right side of the chest about two and one-half months before entering the hospital without any known cause. This pain was worse on exertion and was especially aggravated by using the right arm. It was at times relieved by lying down, but grew progressively worse. About six weeks before entering the hospital the patient first noticed a protuberance of her chest which was very tender. There was some dyspnea, palpation and a little cough. All the symptoms in the case were characteristic of an aneurism of the arch of the aorta. The patient died almost a year after the onset of her trouble. As the sternum was removed there was found to be adherent to it, at the junction of the second costal cartilage with the sternm, an aneurism arising from the junction of approximately the ascending and the transverse portions of the arch of the aorta. Its main axis was anteriorly in the direction of its attachment to the sternum. It contained a grayish-red laminated clot which projected into the left ventricle, where it was attached to the musculi pectinati. On the posterior wall of the ascending arch and considerably nearer to the aortic leaflets than the preceding aneurism, was a second aneurism, which, extending posteriorly, compressed the trachea at the level of the bifurcation. The aneurism had broken down the arch of the tracheal rings and had exerted such pressure on the posterior wall as to produce necrosis with a resulting fistula between the left bronchus just below the bifurcation and the esophagus.

38. **Floating Kidney.**—The principle which Beyea believes is demanded in the operation of nephropexy is that in the technic of performance of the operation neither the kidney, parenchyma or fibrous capsule of the kidney should be injured or disturbed by suture or other means, and that no extensive pericapsulitis should follow to form tissue which will contract, press on, or involve the underlying parenchyma. Further, the operation should avoid any cicatricial change in the lumbar incision. The adhesions to the external capsule of the kidney should be just sufficient to maintain the kidney in permanent normal position. Beyea has modified his operation, first described in 1901, by placing the one rubber tube at the extremity of the lower pole so as to secure the kidney in a higher position, just below where it would be impinged on by changes in the size of the liver, therefore, in normal position. This operation has now been performed in at least 50 cases, and a period of from seven and one-half years to a few weeks have elapsed, and in no instance has a recurrence or symptom referable to the operation been reported. There has been no mortality.

39. **Micro-organisms in Mouths and Throats of Healthy Persons.**—All the throats examined by Rucker contained streptococci and diplococci, showing them to be normal inhabitants of the normal mouth and throat. *Streptococcus mucosus* was found in 70 per cent. of all cases. Atypical pneumococcus occurred in 50 per cent. of the 20 cases. Typical pneumococcus was present five times or in 25 per cent. of the number of cases examined. Organisms of the same species may behave differently in their action on starch if the organisms are from different sources.

### Pennsylvania Medical Journal, Athens.

*October.*

40 *Address of the President, Medical Society of Pennsylvania; Duties and Advances of the Medical Profession. W. H. Hartzell, Allentown.
41 *Oration on State Medicine, Medical Society of Pennsylvania. S. G. Dixon, Ardmore.
42 The Trained Nurse in the Public Schools, as a Factor in the Education of the Children. S. W. Newmayer, Philadelphia.
43 *Salt-Free Treatment of Epilepsy Apropos of Thirty-Seven Cases. A. Gordon, Philadelphia.
44 Prophylaxis and Management of Prostitution. D. Lewis, Chicago.
45 *Abscess of the Brain. W. G. Spiller, Philadelphia.
46 Heart Tonics and Stimulants. R. Myers, Huntingdon.
47 Infant Feeding. R. J. Hemminger, Meyersdale.

40.—See THE JOURNAL, Sept. 29, 1906, page 1048.

41, 43.—See THE JOURNAL, Oct. 20, 1906, page 1322.

45.—This article also appeared in the *University of Pennsylvania Medical Bulletin;* see abstract No. 35.

### Colorado Medicine, Denver.

*October.*

48 *President's Address, Colorado State Medical Society. H. G. Wetherill, Denver.
49 Diagnosis of Acute Abdominal Disorders. J. N. Hall, Denver.
50 Tertiary Syphilis. F. G. Mohlan, Pueblo, Colo.

48.—See THE JOURNAL, Oct. 27, 1906, page 1403.

### Illinois Medical Journal, Springfield.

*October.*

51 Cytodiagnosis of Pleuritic and Pericardial Fluids of All Sorts. A. A. Goldsmith, Chicago.
52 Empyema. L. C. Taylor, Springfield.
53 *General Symptomatology and Physical Signs of Pleuritis. C. S. Williamson, Chicago.
54 Pericarditis; General Symptoms and Physical Signs; Mechanical Effects of Fluid Distension of the Sac. C. A. Elliott, Chicago.
55 Diagnosis of Effusive Pleurisy and Pericarditis. E. F. Wells, Chicago.
56 Treatment of Pleurisies and Pericarditis. N. S. Davis, Chicago.
57 Pathogenesis of Ascites. T. Tieken, Chicago.
58 Symptoms and Physical Signs of Peritonitis. C. L. Mix, Chicago.
59 Differential Diagnosis of Peritonitis and of Its Various Forms. E. K. Kerr, Chicago.
60 Pathogenesis, Etiology and Pathology of Peritonitis. W. A. Evans, Chicago.
61 *Disease in the Aged. W. H. Curtis, Wilmington.
62 Surgical Aspects in the Aged. G. E. Rosenthal, Quincy.
63 *Manifestations of Rheumatic Infection in Children. C. M. Wood, Decatur.
64 *Hemangioma and Its Treatment. C. Beck, Chicago.

53, 61, 63.—See THE JOURNAL, June 9, 1906, page 1787.

64.—See THE JOURNAL, June 23, 1906, page 1965.

### The Laryngoscope, St. Louis, Mo.

*October.*

65 *Results Obtained from the Radical Operation for Chronic Purulent Otitis Media. E. B. Dench, New York.
66 Cavernous Sinus Thrombosis in Children Following Mastoid Inflammation. H. G. Langworthy, Dubuque, Iowa.
67 What Is the Present Status of the Operative Treatment of Deviation of the Nasal Septum? J. R. Winslow, Baltimore, Md.
68 *Climatic Treatment of Tuberculosis of the Upper Air Tract. W. Freudenthal, New York.
69 *Is It Necessary to Open the Antrum in Every Case of Mastoid Operation? G. F. Cott, Buffalo, N. Y.
70 Case of Xanthoma Multiplex, with Interesting Throat Complications. J. E. Rhodes, Chicago.
71 Two Cases of Radical Operation on the Maxillary Sinus and Ethmoid. L. R. Culbertson, Zanesville, Ohio.
72 Sarcoma of the Nose. R. F. Miller, Sherman, Texas.
73 Nasal Sarcoma. J. A. Watson, Minneapolis.
74 A Trocar-Pointed Antrum Drill. H. R. Boettcher, Chicago.
75 The Maxillary Sinus Operation that Has Yielded Me the Best Results. C. Jackson, Pittsburg, Pa.
76 A Practical Tongue Depressor. W. W. Bulette, Pueblo, Colo.

65.—This article appeared in the *Annals of Otology, Rhinology and Laryngology* for September; see also abstract in THE JOURNAL, July 21, 1906, page 230.

68.—This article also appeared in the *Annals of Otology, Rhinology and Laryngology* for September.

69.—See THE JOURNAL, Sept. 22, 1906, page 959.

### Annals of Ophthalmology, St. Louis, Mo.

*July.*

77 Cases of Associated Coloboma Oculi and Arteria Hyaloidea Persistens. D. De Beck, Seattle, Wash.
78 Ophthalmic Sins of Hospitals. G. M. Gould, Philadelphia.
79 Hysterical Binocular Amaurosis. F. L. Henderson, St. Louis.
80 A Life and Career Blighted by Ignored Eyestrain. G. M. Gould, Philadelphia.
81 Case of Choroidoretinal Sclerosis with Spontaneous Dislocation of the Lenses, Complete and Incomplete. W. T. Shoemaker, Philadelphia.
82 A New Contribution to Congenital Pigmentation of the Cornea. A. Kraemer, San Diego.
83 Progress of a Year in the Recognition of Eyestrain Reflexes. G. M. Gould, Philadelphia.
84 Center of Motion and the Angle Alpha. L. Howe, Buffalo.
85 Gummata of the Cornea. A. Terson, Paris.

### Annals of Otology, Rhinology and Laryngology, St. Louis, Mo.

*September.*

86 Results Obtained from the Radical Operation for Chronic Purulent Otitis Media. S. Mac. Smith, Philadelphia.
87 *Id. E. B. Dench, New York.
88 Ocular Symptoms of Nasal Origin. H. Hastings, Los Angeles, Cal.
89 *Herpes Zoster Auris. D. T. Vail, Cincinnati.
90 *Sarcoma of the Nasopharynx—Treatment by Injections of Adrenalin. J. E. Rhodes, Chicago.
91 *Infective Sigmoid Sinus Thrombosis. H. B. Ellis, Los Angeles.
92 Three Fatal Cases of Meningitis with Peculiar Ear Symptoms. W. H. Roberts, Pasadena, Cal.
93 The Nasal Turbinate as a Vasomotor Index. J. A. Babbitt, Philadelphia.
94 Postoperative Meningitis. T. J. Harris, New York.
95 Modified Blood Clot in Mastoid Surgery. W. S. Bryant, New York.
96 *Medical Treatment of Tuberculosis of the Upper Air Passages and the Ear. W. C. Bane, Denver.
97 Climatic Treatment of Tuberculosis of the Upper Air Tract. W. Freudenthal, New York.
98 Aspiration of the Tympanic Cavity in Otitis Media. P. Fridenberg, New York.
99 Morphology and Embryology of the Nasal Fossæ of Vertebrates. L. Dieulafe.
100 Surgical Treatment of Tuberculosis of the Upper Air Passages and the Ear. R. Levy, Denver.

87 and 91.—See THE JOURNAL, July 21, 1906, page 230.

89.—See THE JOURNAL, July 28, 1906, page 299.

90.—See THE JOURNAL, Aug. 11, 1906, page 430.

96.—See THE JOURNAL, July 28, 1906, page 300.

### Philippine Journal of Science, Manila.

*September.*

101 *Studies in Beriberi. M. Herzog, Manila.
102 Notes on Four Birds from Luzon and on a Species of Doubtful Occurrence in the Philippines. R. C. McGregor, Manila.
103 A New Genus and Species of Culicidæ. C. S. Banks, Manila.
104 Change of Name in Coccidæ. C. S. Banks, Manila.

101. **Beriberi.**—Herzog concludes that beriberi, kakke or neuritis multiplex endemica is an acute, subacute or chronic disease, generally only prevalent in certain well-defined territories. It is clinically characterized by disturbances of circulation, of motion and of sensation. Its most pronounced anatomic lesions are, first, hypertrophy and degeneration of the myocardium and degeneration of the peripheral nerves and skeletal muscles, and second, localized or more or less general edema, parenchymatous degeneration of the kidneys, liver and interstitial hepatitis. Beriberi is neither primarily a nutritional disturbance nor a simple intoxication like lead, alcohol, arsenic or similar intoxications accompanied with multiple peripheral neuritis, but is an infectious disease. Herzog states that his animal experiments and blood examinations appear to indicate very strongly that none of the claims brought forward for the discovery of a specific micro-organism for the disease can be looked on as substantiated. He expresses the belief that beriberi is due to an organism which gains entrance into the human body, either directly or through food, and there produces a toxin which in character and effect is similar to the diphtheria or tetanus toxin and which by an accumulative action gives rise to the well-characterized anatomic and histologic lesions of beriberi.

## FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

### British Medical Journal.

*October 20.*

1 *Management of Advanced Heart Disease. R. Saundby.
2 *Rubber Teat and Deformities of the Jaws. T. F. Pedley.
3 *Combined Antrum Plug and Artificial Denture. A. S. Hayman.
4 Filarial Larva in the Blood of a Blackbird. W. St. C. Symmers.
5 Observation of Spirochetes in Yaws and Granuloma Pudendi. A. MacLennan.
6 Blood Pressure in Relation to Disease. P. M. Dawson, G. A. Gibson, W. Broadbent, T. C. Allbutt, J. Mackenzie, etc.
7 Clinical Manifestations, Visceral and General, of Arteriosclerosis. A. Stengel.
8 *Treatment of Typhoid Fever. W. B. Thistle.
9 *Influence of Early Feeding in Treatment of Typhoid. F. J. Smith.
10 *Syringomyelia. W. G. Spiller.
11 Bearing of Philosophy on Psychiatry. J. J. Putnam.
12 Experimental Cerebrospinal Meningitis and Its Serum Treatment. S. Flexner.
13 Paracentesis of the Pericardium. G. Dock.

14 *Influence of Bodily Posture on the Position of the Heart. R. D. Rudolf and S. Cummings.
15 Gastric Neurasthenia. H. A. MacCallum.
16 Pre-Insane Stage of Acute Mental Disease. C. Meyers.

1. **Management of Advanced Heart Disease.**—Saundby states that so long as a patient with heart disease is well enough to take exercise it is better that he should do so than be confined to bed. He has seen the best results in the treatment of a weakened myocardium from the systematic use of the Nauheim baths and the exercises devised by the Brothers Schott. Heart disease should be treated by rest in a more or less recumbent position: 1, when there is a certain amount of dropsy present; 2, if walking brings on severe dyspnea or pain; 3, if the state of the circulation is so bad as to cause danger of syncope. The meals should be small in bulk, composed of non-irritating and easily digestible food containing a small quantity of proteid. A mixed diet is preferable. These indications are fulfilled by five small meals daily at intervals of about two and a half hours, avoiding the use of smoked and salted meats, cooked fats, fried and greasy dishes, uncooked fruits, raw vegetables, condiments and spices, and restricting the use of animal food to four ounces daily, which should be easily digestible, such as whitefish, chicken, partridge, lamb, mutton, calves' head and feet, or sweetbreads. If the patient's teeth are defective, the meat must be minced or pounded, as there is no more frequent cause of indigestion than insufficient mastication. Tea and coffee must be prescribed with caution. Alcohol should be used sparingly as an article of diet. It is unnecessary and often does more harm than good. The use of tobacco should be forbidden.

Among the heart tonics employed Saundby mentions digitalis, strophanthus, nux vomica and strychnin, caffein and theobromin, and tincture of convallaria which, in 15-minim doses in combination with caffein or theobromin, he has found very useful in advanced cases of aortic disease. To produce a permanent unloading of the weight on the heart, Saundby employs erythrol tetranitrate, ½ grain, every four hours, while the patient is awake. Sometimes he combines it with digitalin, giving the drugs alternately, with four hours interval between the doses of each. He has no confidence in belladonna. When the abdominal cavity is full of fluid he says it is better to tap than to waste time with drugs. The judicious use of purgatives is of the greatest service in the treatment of cardiac dropsy, but their action needs watching. Saundby prefers elaterium, ⅛ grain, twice a day. In his experience the value of oxygen is small.

2. **Rubber Teat and Deformities of Jaws.**—Pedley writes on the use of the rubber teat and baby comforter and their giving rise to certain deformities of the jaws, irregularities of the teeth, nasal obstruction and other diseases in infancy and childhood.

3. **Antrum Plug.**—Hayman describes a procedure which he employs in cases of antral empyema which for some reason are unsuited for radical treatment. In these cases all that can be done is to trephine. He prepares a gold plate, fitting absolutely closely to the palate and alveolar ridge, taking special care that the plate is closely applied to the buccal surface of the alveolar ridge, thus preventing access of food to the plug and antral opening. On the upper surface of this closely fitting gold plate is soldered a solid gold pin, one-eighth of an inch thick, of sufficient length to pass freely up into the antrum. On the lower surface of the antral bridge is fitted the necessary tooth to supply the place of the missing first and second molar, and such other teeth may be added to the plate as are required in the ordinary manner. The patient is instructed to syringe with the ordinary antiseptic lotions as may be prescribed by the surgeon, every time the plate is removed and replaced, at least three or four times a day.

8. **Treatment of Typhoid.**—Thistle looks on the early use of purgatives in typhoid as the surest protection against perforation and hemorrhage, and the continued use of them as the most efficient means against dangerous intoxication. When a case of typhoid comes under his care he immediately gives 2 grains of calomel, following by one-half ounce of magnesium sulphate or other saline. This process is repeated day after day, the object being to prevent additional infection and to abstract toxins from the body.

9. **Early Feeding in Typhoid.**—In 113 cases of typhoid treated by Smith 24 patients died, a mortality of 21 per cent. In 4 cases food had been given before the patient died. In the remaining fatal 20 cases no food had been given. The average day of the disease on which eggs and bread and butter were given was the twenty-fourth. The average day of the disease on which fish was given was the thirty-second. The average day on which meat was given was the forty-first. Feeding in the cases treated by the rest of the staff was begun on the thirty-seventh, forty-fourth and fifty-fith days respectively. Dr. Smith's patients remained in the hospital on an average of 48 days. In the cases of the rest of the staff this was 57 days. The rest of the staff treated, during the same period, 1,429 cases, with 235 deaths, a mortality of 16 per cent. Among them 12 patients had had food before death; 223 died before food was given. Among Smith's 113 cases, thrombosis of veins, periostitis and abscess formation occurred in only 2 per cent. In the cases treated by the rest of the staff these complications occurred in over 10 per cent. Among Smith's cases there were 16 relapses, 14 per cent. In the case of the rest of the staff there were 203 relapses, 14 per cent.

10. **Syringomyelia.**—Spiller reports a case of syringomyelia in which the lesion extended from the sacral region of the spinal cord through the medulla oblongata, right side of the pons and right cerebral peduncle to the upper part of the right internal capsule.

14. **Posture and Position of Heart.**—The points brought out by Rudolf and Cummings are summarized as follows: 1. The normal heart tends to change its position in the chest under the influence of gravity, being nearer to the sternum in the vertical and prone postures than in the recumbent one. 2. As a result of this, the cardiac dulness is altered in the different postures, being lower and wider in the upright than in the recumbent positions. Also the sounds of the heart tend to become louder in the vertical than in the recumbent position. 3. The degree of mobility of the heart is very different in different individuals, in some being scarcely apparent while in others it is marked. Adults show it more than children, and it is especially evident in certain diseases—for example, chlorosis, neurasthenia and hypochondriasis. 4. In all cases in which accuracy is necessary the heart should be examined in both the vertical and the recumbent postures.

## The Lancet, London.

*October 20.*

17 Then and Now, in Surgery. C. A. Ballance.
18 Medical Books. N. Moore.
19 *Enlarged Veins in Children. A. G. Gibson.
20 *Strangulation of the Appendix Vermiformis in Hernial Sacs. H. S. Clogg.
21 Detection of Sugar in Urine and Its Significance in Connection with Life Assurance. A. M. Kellas and F. J. Wethered.
22 *New Aspect of the Pathology and Treatment of Leprosy. R. S. Black.
23 *Method of Taking Impressions of the Weight-Bearing Surface of the Foot. W. D. Lawrie.
24 Oral Sepsis in Operations on the Throat. W. Wingrave.

19. **Enlarged Veins in Children.**—Records have been kept by Gibson of 14 cases showing visible venules together with dilated jugulars which behave abnormally on respiration. All these patients suffered from general debility, wasting and listlessness. Seven cases occurred in males and 7 in females. The ages ranged from 4 to 10 years. In 57 per cent. there was a history of tuberculosis in the family; visible veins on the chest were present in 92 per cent.; downy hair in 42 per cent.; a Eustace Smith retraction murmur in 71 per cent., and palpable glands in the neck in 64 per cent.

20. **Strangulation of Appendix in Hernial Tract.**—Clogg states that of the 53 reported cases of this kind only 3 occurred in males, and of these 3, 2 were children, one, a baby, 5 weeks old, and the other 22 months old. Both were inguinal hernias. Fifty cases occurred in women and in every case the appendix was strangulated in a femoral hernia. Twenty-two of these 50 patients were known to have a hernia before strangulation occurred. The characteristics of these hernias are said to be that they are of small size, generally early reducible, and only present on occasions and not constantly, sometimes only having been observed once or twice previously to strangulation. The author's three cases are reported in full.

22. **Leprosy.**—Black thinks that there can be hardly any doubt that leprosy in its early stages begins as a small ulcer on some part of the nasal mucous membrane, and that this ulcer may heal and pass entirely away. This, he thinks, is the explanation of the maculo-anesthetic cases. During the time the ulcer exists leucocytes get detached from the ulcerating spot and along with the bacilli which they are attempting to devour are carried by the blood stream and lodged in various situations in the peripheral nerves, where they become entangled, and the bacilli then proceed to grow, causing pressure on the fine nerve fibrils and consequently setting up nutritive changes in the skin which these axis cylinders supply, thus causing the patches of discoloration and anesthesia.

In the nodular and mixed cases the progress of the disease is quite different. Instead of the nasal ulcer healing up it proceeds to grow apace, causing extensive destruction of the nasal mucous membrane, causing it to swell up and ultimately attacking the nasal bones themselves. The accumulating swelling of the mucous membrane extending into the numerous interstices of the nasopharyngeal cavity causes the face to assume its characteristic appearance of this clinical variety of the disease, assisted, of course, by the leprotic infiltration from the festering nasal ulcer. But the festering sore has other consequences. As in maculo-anesthetic leprosy the leucocytes get entangled in the peripheral nerve and cause anesthesias and discoloration of the skin and also form accumulations in other organs and tissues. Black thinks that if the disease is diagnosed early, curetting and antiseptic washes will do much to destroy the initial lesion and to prevent the spread of the disease to other parts of the body. He says that it has been clearly shown that the disease in the natural course of events tends rapidly to die out in the body unless reinforced by a continual supply of the bacilli as is the case of nodular epilepsy from the extending nasal ulcer.

23. **Method of Taking Impression of Foot.**—Lawrie describes a method recently advocated by Schuman of Leipsic. The foot is painted with a 5 per cent. solution of ferrocyanid of potash and it is then placed on a sheet of paper which has been thinly coated with a solution of ferric chlorid. This leaves a good impression which is permanent and requires no after-treatment.

### Intercolonial Medical Journal of Australasia, Melbourne.

*September 20.*

25 Theory and Technic of Cerebrospinal Drainage. R. H. Russell.
26 Tumor of the Brain, with Meningitis, Probably Tubercular—Relief and Rest of the Symptoms by Trephining. R. R. Stawell and J. W. Barrett.
27 Bacteriologic Examination of the Melbourne Water Supply. R. J. Bull.
28 Pericarditis in Children Considered Surgically. W. Mackenzie.
29 *Resuscitation of a Patient Apparently Dead from Primary Heart Failure. J. Ramsay.
30 Two Cases of Optic Neuritis. J. W. Barrett.
31 The Radical Mastoid Operation. J. W. Barrett.
32 *Epithelioma of the Tongue—Operation by McCormick's Method. W. Moore.

29. **Resuscitation from Heart Failure.**—Ramsay reports the case of a woman who was practically dead, following an operation for uterine prolapse, in which massage of the heart resulted in a return to life. The right hand was passed through an epigastric incision and inserted between the liver and diaphragm. Bimanual squeezings with the left hand in the precordial region, and with the right under the diaphragm, were made about every second. After about a dozen squeezes a slight quiver was felt, and after another dozen or so of squeezes a fetal heartbeat was felt. The pulse could be felt at the wrist after an absence of about five minutes. Spontaneous respiration then commenced and a regular circulation and respiration were restored. Further progress was uneventful.

32. **Epithelioma of Tongue.**—The chief interest of Moore's case is the good result that was obtained in a case that appeared to be altogether hopeless.

### Glasgow Medical Journal.

*October.*

33 *Two Cases of Syringomyelia. T. K. Monro and H. M'Laren.
34 Case of Anastomosis Between the Femoral Veins Subsequent to Thrombosis of the Left External Iliac Vein During Typhoid Fever. A. N. M'Gregor.
35 Nasal Headache. W. S. Syme.
36 Case of Mixed-Celled Leukemia. L. Findlay.

33. **Syringomyelia.**—Monro and McLaren report 2 cases, one of which came to autopsy. They found a cavity in the spinal cord extending horizontally into each posterior horn, and vertically from the second cervical to the middle lumbar region, constituted throughout the greater part of its length by the dilated central canal, but separate from that canal at both its upper and its lower extremity. Widespread sclerosis of the cord was present in almost the whole of its extent. Degenerative changes in nerves of the lower limbs were also noted.

### The Australasian Medical Gazette, Sydney.

*September 20.*

37 *Treatment of Pulmonary Tuberculosis. C. Reissmann.
38 Treatment of Tubercular Disease of the Upper Respiratory Tract. T. K. Hamilton.
39 Open-Air Treatment of Consumption. A. A. Lendon.
40 Pressure Forceps in Abdominal Cavity for Ten and One-half Years. J. E. F. Stewart.
41 *Notes on Some Anesthetic Sequences. A. G. McGowan.
42 Gonorrheal Infection in Children. W. J. Plomley.
43 *An Unusual and Unique Case of Toxemia. A. E. Randell.
44 *An Unusual Case. F. C. S. Shaw.

37. **Treatment of Pulmonary Tuberculosis.**—Reissmann believes that the opsonic treatment in conjunction with the sanatorium method will soon be recognized as the appropriate treatment of every early case of pulmonary tuberculosis.

41. **Anesthetic Sequences.**—Unless specially contraindicated, McGowan's routine practice for general anesthesia is to use ethyl chlorid and ether first, till the operation is well advanced, giving the ether with the bag off the inhaler as much as possible, as he does not believe in too much rebreathing after the early stages. When the worst of the operation is over he changes to C.E. mixture on a Silk's mask, giving abundant air suply therewith, and toward the end a few drops of chloroform on an open mask will suffice for the cleaning up and suturing. This is an ethyl-chlorid-ether—A.C.E.—chloroform sequence; cumbersome, but in McGowan's experience quite satisfactory.

43. **Unusual Case of Toxemia.**—Randell reports the case of a woman who was complaining of a swollen and very painful lower lip. She thought a fly must have stung it, but could not say that such was certainly the case. Randell regarded it as a "bunged" lip, but he had never before seen one in which the swelling had occurred so rapidly, nor one in which the patient complained of so much pain. The lip was very much swollen and edematous, and almost as stiff as a bit of wood. It was pale, and there was no indication of any inflammation. The patient was incessantly retching and complained of great pain in the lip and in the parts immediately around it. It was very painful when touched. The lip was inclined to be cold rather than hot. The body temperature was slightly subnormal; the pulse was 120 a minute, and respiration about 25. The swelling greatly increased and extended to the upper lip, the right eye was closed, and there was a good deal of swelling under the chin.

The following morning the swelling had completely surrounded the mouth, had nearly reached the right ear, and had passed down the front of the neck as far as the episternal notch; there was a mottled appearance of the lips and right cheek, but no crepitant sensation, patches being purplish, but no greenish discoloration. Under the chin were a few blebs containing clear serum. The swelling spread down the chest to the third rib, half-way out to the shoulders, around to the back of the neck, and on to the left cheek; the epidermis had left the right side of the lower lip. All sensations had gone from the lips and adjacent parts, and the mottling discoloration had spread nearly as far as the right ear and to the point of the chin. The patient died, very quickly and quietly, a little over 26 hours after the appearance of the first symptoms, having retained perfect consciousness up to the last moment.

44. **Probable Rupture of Liver Abscess into Bronchus.**—Shaw reports a case in which the diagnosis was doubtful. The patient, a man, aged 27, had been ailing about 12 months. He first felt some pain in the right side over the liver and lower part of the lung, and later he had ague-like attacks, in which he shivered and sweated freely. Every evening he would become hot and feverish. These attacks continued until six months previous to consulting Shaw, when the man stated that

the pain became so severe that he had to lie in bed. He noticed also at this time that his right side, over the liver region, was more swollen than the left. He now suffered also from a slight cough, and a fortnight after going to bed, during an attack of coughing, something broke, and he coughed up a great quantity of thick, creamy fluid, streaked with blood. He coughed up several quarts of this matter for two days, and then the color changed to brownish-green, and the fluid became thinner and the paroxysms of coughing not so frequent. These paroxysms of coughing continued for about six months. Recovery was to a marked extent due to the antiseptic effect of the free flow of bile.

### The Bristol Medico-Chirurgical Journal.

*September.*

45 Adaptation of Means in the Prevention of Disease. D. S. Davies.
46 *Treatment of Tabetic Ataxia by Methodical Exercises. M. Faure.
47 Case of Mesenteric Thrombosis. C. M. Smith.
48 Treatment of Diabetes with Secretin. J. R. Charles.
49 The Doctor as Expert and Pioneer. C. J. Whitby.
50 Uses of Static Electricity as an Aid to Recovery. P. King.
51 Explanation of Alveolar Cleft Palate. E. Fawcett.

46. **Treatment of Tabetic Ataxia by Methodical Exercises.**—Faure states that if one succeeds (and this is possible with exercise and special care) in keeping respiration, defecation and micturition in a normal condition, the health of the tabetic may be prolonged almost indefinitely. He has succeeded in combining in one system the re-education in walking with that of equilibrium and maintenance of movements of the trunk, and the walk that he teaches is effected in such a manner that while insuring the maximum of stability with the minimum of effort, it serves at the same time, and with slight modifications, for walking up or downhill, on the level or on irregular ground, all points which the ideal walk and the military march fail to accomplish. Faure has fixed on a method for the compensatory treatment of the ataxia of tabetics, taking into consideration not only the motor disturbances of the arms and the legs, but also the incoördination of the trunk, the defects of sensibility, the insufficiency of inspiration, of micturition and defecation, the difficulties in equilibration, and the sense of position, completely modifying the health and duration of the life of the tabetic, and the prognosis and the evolution of tabes. A full description of the method is promised later.

### Bulletin de l'Académie de Médecine, Paris.

52 (Year LXX, No. 33.) *Chloroform in the Blood.—Procédé de dosage du chloroforme dans le sang et dans les tissus. M. Nicloux.
53 *La syphilis des honnêtes femmes (wives infected by their husbands). A. Fournier.

52. **Dosage of Chloroform in Blood and Tissues.**—Nicloux solves the problem by distillation in the presence of a large excess of alcohol. The chloroform is eliminated from the blood, but is dissolved at once in the alcohol. He has found that the chloroform is taken up most by tissues containing fats or lecithin. The adipose tissue, when it is well vascularized, can hold enormous quantities of chloroform.

53. **Wives Infected with Syphilis by Their Husbands.**—Fournier's previous communication on this subject was mentioned on page 1600. He here expatiates on the frequency of unmistakable secondary lesions occurring after the tertiary period is long established, 15, 20, 30 or even 39 years after infection, especially in the mouths of smokers. These lesions are as contagious as those occurring early, and he cites numerous instances of infection of the wife after a dozen or more years. One of his patients, infected in 1868, married 15 years later, but he frequently had lesions in his mouth, as he was an inveterate smoker. These lesions sometimes were mere erosions and sometimes secondary syphilides, the result being that in spite of constant warnings he infected his wife at the seventeenth year. Neisser insists that the age of the infection has nothing to do with its infectiousness. Fournier preaches the importance of educating patients in regard to the dangers of tardy syphilitic contagion, and also that every syphilitic who wishes to marry is under the moral obligation to refrain from smoking. Out of 19,000 syphilitic patients he has encountered 533 who were affected with tardy secondary lesions in the mouth and only 110 with the same on the genitals. He gives a diagram showing the frequency of these mouth lesions up to the twentieth year, as a basis for his condemnation of tobacco for syphilitics who think of marrying. Wives infected by their husbands generally run the risks of ignored syphilis. One of the gravest dangers is that the physician may fail to recognize it. In conclusion Fournier declares that when one has syphilis it is well to know it, first, to ensure adequate treatment, and, secondly, to refrain from giving it to others. Ignored syphilis, he adds, is nowhere so common as among married women of irreproachable character.

### Presse Médicale, Paris.

54 (XIV, No. 73.) *De l'occlusion intestinale par volvulus de l'intestin grêle. P. Alglave.
55 (No. 74.) Les nouvelles théories des solutions dans leurs rapports avec la médecine. L'electrolyse des tissus vivants (of living tissues). S. Leduc (Nantes).
56 (No. 75.) *Le kraurosis vulvæ. F. Jayle, see page 1333.
57 (No. 76.) Les médications electrolytiques. Id.
58 *Sensibilité hépatique. Point épigastrique. Point xiphodien. V. Raymond.
59 Du rôle de la physique et de la chimie en médecine. H. Delaunay.
60 (No. 77.) Twin Ova.—Les oeufs gémellaires. C. Jeannin.
61 *Les injections d'eau de mer isotonique dans Phêmophilie des nouveau-nés (injections of sea water in hemophilia of the new-born). Pelissard and Benhamou.
62 Traitement des conjonctivites purulentes algues. Caillaud.
63 (No. 78.) Notions générales sur les anticorps (antibodies). L. Hallion.
64 *Tuberculose et glande thyroïde. Morin.
65 (No. 79.) *Des douleurs tardives de l'estomac et de leur traitement (tardy gastric pain). L. Meunier.
66 Corps étrangers superficiels de l'oeil (foreign bodies in eye). H. Joseph.
67 (No. 80 *L'habitation. Hygiène de l'aération. A. A. Rey.

54. **Intestinal Occlusion from Volvulus of Small Intestine.**—In the case described and illustrated by Alglave the symptoms developed suddenly after the patient, a robust porter, 63 years old, had ingested a large amount of a very cold drink while much heated. A purgative was given 24 hours after the first symptoms, and this materially aggravated the condition. The volvulus was easily reduced through a laparotomy, but the patient succumbed the same night.

56.—This article appeared in the *Revue de Gynécologie* and was summarized on page 1333.

58. **Local Tenderness of the Liver.**—Raymond has been studying on 161 patients the local tenderness of the liver and tabulates the results. The principal point where pressure is painful is in the epigastrium, a little to the right of the median line. The pain is not intense, but it distresses the patient; he holds his breath, and sometimes he coughs or experiences nausea. Sometimes the pain elicited by pressure at this point lasts for hours. Pressure on the xiphoid appendix is also liable to elicit the same kind of distressing pain. The patients frequently discover this for themselves by the pressure of the table as they bend forward to write. These points of local tenderness enable the entire extent of the free margin of the liver to be outlined, and reveal the pathologic condition of the organ, the stage of the process, and its acute or chronic character. If the liver feels hard, springy, without tenderness, the process is essentially chronic with predominance of sclerosis. If the liver is enlarged but soft and only slightly sensitive, the process is less advanced and there is hypertrophy or hyperplasia. If the liver feels hard or elastic but quite sensitive, the process may be assumed to be an acute one in a chronically affected organ. If the liver feels soft, is difficult to palpate, and is very sensitive to pressure, the morbid process is a recent one and the organ is congested. If the liver is painful and soft, and the epigastric and xiphoid points painful both spontaneously and on pressure, the process is an acute infective one, with congestion, or it is an acute phase of a chronic affection. Study of the epigastric and xiphoid points will reveal the participation of the liver in cases of dyspepsia. He found the liver sensitive to pressure in 57 cases of chronic malaria out of 60 examined; in 37 out of 44 of dyspepsia; in 23 out of 24 of biliary lithiasis; in 12 out of 16 cases of diabetes; in 6 out of 10 of renal lithiasis, and in 1 out of 2 patients with gout. Tenderness of the liver is an early sign of trouble in this organ, preceding hepatalgia and enlargement.

61. **Injections of Sea Water in Hemophilia.**—Pelissard and Benhamou report the case of an infant with hemorrhages from the nose, ears, skin and digestive tract, the second day

after birth. The child seemed to be otherwise healthy, but grew weaker under this constant loss of blood, which persisted notwithstanding energetic treatment with antipyrin, peroxid of hydrogen, gelatinized serum, etc. For 24 hours the hemorrhages continued, when 10 c.c. of isotonic sea water was injected as a last resort. The hemorrhages ceased almost at once; by the end of three hours there was no further bleeding, the child wanted to nurse, and there has been no recurrence of the hemophilic tendency to date. The day afterward and again a week later the injection of sea water was repeated as a precautionary measure. They call the sea water "Quinton's plasma," as Quinton is responsible for its use in therapeutics.

64. **Tuberculosis and the Thyroid Gland.**—Morin has been impressed with the frequency of atrophy of the thyroid gland in cases of pulmonary tuberculosis. He reasons that the antitoxic function of the thyroid secretion and the presence of iodin in this secretion justify the use of iodin in tuberculosis to supply the iodin missing in the insufficient thyroid secretion. His experience has been favorable with treatment on this principle.

65. **Tardy Pain in the Stomach.**—Meunier believes that the efficacy of sodium bicarbonate in relieving the pains that appear from two to four hours after a meal is not due to its neutralizing the hydrochloric acid, as generally assumed. By this time the secretion of hydrochloric acid has passed its maximum and begun to decline. The relief is due to its generation of carbonic acid. The same result can be obtained more effectually by administering carbonates and tartaric acid in fractional doses which ensure a slow and continuous generation of carbonic acid, while the combination of the drugs forms a neutral salt incapable of modifying the acidity of the gastric juice or checking its digestive action. In fact, the nascent carbonic acid not only arrests the pain, but seems to promote the natural gastric digestion and the evacuation of the stomach. He uses two powders. No. 1 contains 1 gm. of tartaric acid and No. 2 three carbonates of varying solubility, so that one dissolves before the other. The second powder, therefore, contains 0.4 gm. of sodium bicarbonate, 0.3 gm. of calcium carbonate and 0.2 gm. of magnesia hydrocarbonate. The patient is told to dissolve the two powders in half a glass of water each, and then to take a tablespoonful from one glass and then at once a tablespoonful from the other glass every ten minutes until the pain has ceased. His experience has been very satisfactory with this technic.

67. **Reform in Construction of Dwellings.**—Rey is an architect, and he protests against the application of theories to the building of houses, as theories are liable to be overthrown by new ones to-morrow. Established facts should be the bases for reforms, and houses should be constructed to conform to the fact which has been incontrovertibly established, namely, the vital necessity of light and air even to the remotest part of our dwellings. In the first place, he says, all shut-in courts should be abolished. They are no aid to ventilation as the air in them is stagnant air. He gives diagrams showing how the same space as is now given up to these inside, shut-in, worse than useless courts and yards, could be utilized to supply ample ventilation to all parts of the building. The courts should open on the street, and the building should stand in the center of the space, instead of the present plan of building the structure around a central well of stagnant air. His diagrams show that cities would gain immensely in beauty by doing away with the solid rows of buildings fronting the street, and having each building stand alone, with small open spaces around it, allowing opportunity for artistic, graceful outlines in the ground plan, even of tenement houses. The Antituberculosis Congress of 1905 adopted a resolution to the effect that yards and courts should open on the street, acting on Rey's suggestion, but the matter has not yet been brought sufficiently to public attention.

### Beitraege z. Klinik der Tuberkulose, Würzburg.

*Last indexed, page 1421.*

68 (VI, No. 1.) *Die Tonsillen als Eingangspforten der Tuberkel-Bazillen. Bandelier (Cottbus sanatorium).
69 *Die Maximal-Dosis in der Tuberkulin-Diagnostik. Id.
70 *Der diagnostische Wert der Tuberkulin-Inhalation. Id.
71 Zur Heilwirkung des Tuberkulins. Heilung eines Lupus durch Perlsucht-Tuberkulin. Id.
72 (No. 2.) *Ueber Russ-Inhalation bei Tieren (experimental inhalation of soot). H. Bennecke. Id. L. Aschoff.
73 *Tuberkulin-Reaktion und Tuberkulin-Immunität. H. Lüdke.
74 *Ueber den diagnostischen Wert des alten Kochschen Tuberkulins. W. Roth-Schulz.
75 *Agglutination bei Lungen-Tuberkulose. F. Jessen (Davos).

68. **The Tonsils as Entering Point for Tuberculosis.**—Bandelier summarizes the principal communications previously published on this subject, and then gives the details of 100 cases in which the tonsils were found enlarged and tuberculous among 900 tuberculous inmates of the Cottbus sanatorium. Tubercles were found in some of the tonsils when outside they were apparently sound in appearance. A tuberculous process in the tonsil is a frequent accompaniment of tuberculosis of the lungs, and a primary tuberculous process in the tonsil is occasionally encountered, the result of infection from inhaled or swallowed germs. The tonsils as an entering point for tuberculous infection have not much importance for adults, but in children they may serve as well as abrasions of the skin, carious teeth, etc., to allow the entrance of the bacillus.

69. **Maximal Dose in Diagnostic Use of Tuberculin.**—Bandelier's extensive experience at Cottbus has confirmed the importance of Koch's technic for the use of tuberculin in diagnosis. He affirms that the maximal dose of 10 mg. gives the only reliable findings.

70. **Diagnostic Value of Inhalation of Tuberculin.**—Bandelier has been giving the method of inhalation of tuberculin in the form of a spray, advocated by Kapralik and H. von Schroetter, a thorough trial at the Cottbus sanatorium. The results confirm their assertions in regard to the convenience and reliability of this method of tuberculin diagnosis, although further experience is needed to determine some of the practical points, especially the minimal dosage. They used the Bulling vaporizer and found that 30 mg. of tuberculin was necessary to induce the reaction, even with active tuberculosis of the lungs, as only a small proportion of the amount inhaled is absorbed, the rest not being retained but swept out again by the expired air. In case of an inactive or latent process, in the non-tuberculous in the clinical sense, and in case of tuberculous processes elsewhere than in the lungs, the amount of tuberculin necessary to induce a reaction averaged 250 mg. Tuberculous individuals who react to a small dose show that they have an active process in the lungs, while this is excluded if no reaction occurs without a very large dose. In case of tuberculous processes in the bronchial glands, with lungs still intact, a reaction to the tuberculin and the absence of a reaction when the amount is reduced, would show that the lungs are still sound, while the occurrence of the lung reaction when the test is repeated later would indicate that the process in the glands had spread to the lungs. The method might also prove important to exclude a pulmonary focus before a contemplated operation for some tuberculous process elsewhere. It may also prove useful to indicate the progress of transformation of an active into a latent process when, after the first reaction to 30 mg., larger and larger quantities are required to induce the reaction. Bandelier does not agree with them, however, in regard to the possibility of inducing immunity by way of inhalation of tuberculin. He gives in tabulated form the details of 38 cases in which the diagnostic inhalations of tuberculin were given.

72. **Experimental Inhalation of Soot.**—Bennecke and Aschoff describe experiments which, they think, disprove the statements of Calmette and his school in regard to the intestinal origin of anthracosis of the lungs.

73. **Tuberculin Reaction and Tuberculin Immunity.**—Lüdke writes from von Leube's clinic that clinical observation has demonstrated that specific treatment with tuberculin does not cure directly, but merely arrests the processes or improves them. The production of antituberculin can not be extensive when small amounts of tuberculin induce a reaction again after weeks or months. The immunity induced by an injection of tuberculin is thus only a relative immunity, limited both quantitatively and in its duration. He ascribes the curative action of tuberculin exclusively to its action on the diseased tissue. It seems able sometimes to fan the tuberculous process into a more acute course, and thus to render healing possible in some cases.

74. **Tuberculin Test.**—Roth-Schulz states that the experiences at the great Beelitz sanatorium show that the sensitiveness to the tuberculin test is independent of the age and weight, debility and anemia not exaggerating the response to the test. There does not seem to be any regular connection between the stage of the disease or its duration and the degree of sensibility to tuberculin. The mild, "closed," initial cases seem to be especially susceptible. An argument in favor of the specific character of the reaction is the frequency with which adults give a positive reaction, even without clinical signs of a tuberculous process, but autopsy reveals the latent focus, and, on the other hand, the rarity of a positive response in infants, corresponding to the rarity of tuberculous processes at this age. Repeated administration of small, slightly increasing doses (0.5 to 2.5 mg.) gives as frequently a positive response, he found, as the original Koch dose of 10 mg., owing to the cumulative action of the tuberculin.

75. **Agglutination in Pulmonary Tuberculosis.**—Jessen of Davos has investigated the agglutinating property of the serum of 86 tuberculous patients, making 122 tests in all. He found that the agglutinating power increased, after arrival in the mountains, without any specific treatment, and that the patients treated with tuberculin failed to show higher agglutinating power than those without. As a rule, increased agglutinating power paralleled clinical improvement, but it declined as the case progressed to complete recovery. Agglutination at 1 to 25 is the least proportion with diagnostic significance.

**Berliner klinische Wochenschrift.**

76 (XLIII, No. 40.) *Ueber Hydrops toxicus. H. Quincke.
77 Experimentell-kritische Untersuchung über die Sahli'sche Desmoid-Reaktion. S. Salto.
78 *Improvement of Leukemia by Intercurrent Infections.—Zum Verständniss der Besserung der Leukämie durch intercurrente Infektionen. C. Funck.
79 *Zur Behandlung des Trachoms mit Radium. A. N. Dinger (Amsterdam).
80 *Present Status of Epidemic Cerebrospinal Meningitis.—Stand unserer Kenntnisse von der übertragbaren Genickstarre. M. Westenhoeffer. (Concluded.)
81 (No. 41.) Experimente über hämatogene Lymphdrüsen-Tuberkulose (of glands). P. von Baumgarten.
82 *Ueber Heissluft-Therapie bei Emphysem, chronischer Bronchitis und Asthma bronchiale (treatment with superheated air). E. Cohn.
83 *Barberio's Reaktion auf Sperma. J. B. Levinson (Moscow).
84 Care of Abdominal Walls After Delivery.—Zur Pflege der Bauchdecken nach der Entbindung. P. Brose.
85 Ueber die topographische Perkussion des kindlichen Herzens (of child's heart). A. Mayer and R. Milchner (Senator's clinic, Berlin). Concluded.
86 Aetiologie und Epidemiologie der übertragbaren Genickstarre (epidemic meningitis). K. H. Kutscher.

76. **Toxic Dropsy.**—Quincke believes that the action of toxins is responsible for the development of hydrops. Myxedema is the most striking example, showing unmistakably the influence of autointoxication from some still unknown poison. A toxic action is also evident in many affections accompanied by cachectic and essential hydrops, such as cancer, phthisis, scarlet fever, gastrointestinal disturbances and pernicious anemia. In nephritis, the tissue waste of the diseased kidneys is superposed on the stagnating metabolic products. The poison acts not only on the walls of the vessels but probably also on the connective tissue, causing it to draw increased amounts of water out of the vessels. In certain cases of nephritis salt may have this effect on the connective tissue, making it more avid of water. Unknown local factors must favor the development of the edema at certain points, as in the face and eyes, in case of iodin intoxication. The poison probably acts on the walls of the vessels, on the tissues themselves, on the nerves of the affected region (central or along their course), affecting the nerves of the vessels, especially those which regulate the size of the lumen and the permeability of the walls, and the trophic nerves which act on the tissue itself. His article is based on the case of a man of 57 with pernicious anemia who suddenly developed general hydrops while showing marked improvement in his general health and in the composition of his blood. The hydrops reached its maximum and declined again in the course of two weeks; in the third week there was a general scaling off of the epidermis, similar in every respect to that after scarlet fever. The heart and kidneys were sound, and he regards the scaling as the expression of the general nutritional disturbances, the same as in scarlet fever, in which the scaling can not be regarded as merely the effect of the erythem.

78. **Improvement of Leukemia by Intercurrent Infections.**—Funck's patient was a man of 28 who had exhibited symptoms of myelemia for three months when signs of infection of a hydronephrosis developed. This subsided under treatment and with it the signs of myelemia. The glands and the spleen returned to normal size while the blood picture showed marked improvement. These facts Funck accepts as sustaining his conception of leukemia as a malignant neoformation in the blood-forming apparatus. An intercurrent infection summons the leucocytes to enhanced physiologic activity.

79. **Radium in Treatment of Trachoma.**—Dinger has given radium bromid a trial in the treatment of 16 cases of trachoma. Seven patients were entirely cured; all the granulations have vanished. The younger the patients the more rapid and perfect the cure. In the older cases and in those with pannus the recovery proceeds more gradually. He regards the radium treatment as an improvement over caustics and mechanical measures as it is painless. He used 5 mg. of radium bromid, applying it for a minute once or twice a week, then lengthening the applications up to five minutes. The total length of treatment ranged from one to three months. All the patients had already been under treatment with other measures for from two to six years or more. Not the slightest by-effects were observed in any instance although scrupulous watch was kept for them.

80. **Epidemic Cerebrospinal Meningitis.**—Westenhoeffer closes his long study of the present status of our knowledge in regard to this disease with the statement that the inefficacy of all known methods of treatment justifies surgical interference. It may be possible, he asserts, to ward off the subsequent hydrocephalus by evacuation of the pus collecting in the posterior and descending cornua. This can not be done by lumbar puncture, only by drainage of the descending cornu, continued for several days, with thorough rinsing out of the cornua. He advises operating at the middle or end of the second week, as the defensive reaction of the organism may be assumed to be then at its height. As hydrocephalus in these cases almost invariably entails imbecility or death, he affirms that surgical treatment based on these rational grounds is justified and even demanded.

82. **Superheated Air in Treatment of Emphysema and Bronchitis.**—Cohn has become convinced by examination of animals that the application of hot air to the chest draws the blood to the surface and takes it away from the air passages. He found that this process had a favorable effect on bronchial asthma, chronic bronchitis and emphysema, and gives an illustrated description of a chair and chest for application of superheated air to the entire thorax.

83. **Barberio's Reaction for Spermatic Fluid.**—Barberio announced last year that the addition of a concentrated aqueous solution of picric acid to spermatic fluid causes the deposit of yellowish, rhombic crystals. A drop of a saturated aqueous or alcoholic solution of picric acid is added to the suspected substance on the object glass, which is carefully heated until nearly dry, then another drop is added and heated, and so on, thus producing a concentrated solution. Levinson has been testing the reaction and has found that the crystals can not be due to spermatozoa, but must be from the secretions of the prostate or seminal vesicles, as the reaction was positive even in cases of known azoospermia. This confers great medicolegal value on the test, as it is the only one known to date which indicates the derivation of the suspected substance from the male genital organs in the absence of spermatozoa.

**Deutsche medizinische Wochenschrift, Berlin and Leipsic.**

87 (XXXII, No. 39.) Treatment of Affections of Conjunctiva.—Behandlung der Bindehauterkrankungen des Auges. Horstmann. Clinical lecture.
88 Ein neues aseptisches Tropfglas (dropper and bottle). Peschel (Frankfurt a. M.).
89 Functional Tests of the Arteries.—Zur Funktionsprüfung der Arterien. O. Müller. (Concluded.)
90 Reply to Uhlenhuth. Deviation of Complement and Differentiation of Albumin—Komplementablenkung und Bluteiweiss-Differenzierung. M. Neisser and H. Sachs.
91 Zum saprophytischen Vorkommen hämoglobinophiler Bacillen. C. Klieneberger.

92 *Russo's Methylene Blue Test.-Ersatz der Ehrlichschen Diazo-Reaktion durch die Methylenblauprobe nach Russo. R. Dunger.
93 *Influence of Injections of Cholin on Pregnancy.—Zur Beeinflussung der Gravidität mit Cholininjektionen. R. Werner and A. von Lichtenberg.
94 *Treatment of Bladder Wound After High Incision.—Ueber die Methoden der Behandlung von Blasenwunden nach hohem Steinschnitte. P. Baratynski.
95 Two Stab Wounds of Diaphragm.—Zwei Stichverletzungen des Zwerchfells. T. Eichel.
96 (No. 40.) Frühdiagnose und Behandlung der progressiven Paralyse. K. Heilbronner (Utrecht). Clinical lecture.
97 *Ueber primäre Tuberculose und über die Anthrakose der Lungen und der Bronchialdrüsen (bronchial glands). H. Ribbert.
98 *Zur Differential-Diagnose otitischer und metastatischer Hirn-Abscesse (of brain). E. Oberndörffer.
99 *Zur Behandlung mediastinaler Tumoren mit Roentgen-Strahlen. J. von Elischer and K. Engel (Budapest).
100 Ueber Eventratio diaphragmatica. K. Lotz.
101 *Zur Kasuistik des Gallen-Stein-Ileus (from gallstones). O. Hermes.
102 *Ueber die Kuhnsche Tubage (intubation). A. Dirk.
103 Fall von Pruritus vulvæ geheilt durch blaues Bogenlicht (cured with blue arc light). E. Rothschuh.
104 Der Nachweiss von Crenothrix polyspora im Trink-Wasser (in drinking water). O. Rössler.

92. **Russo's Methylene Blue Test.**—Dunger states that this test can by no means take the place of the diazo reaction as some have claimed.

93. **Influence of Injections of Cholin on the Embryo.**—Several illustrations are given showing the destructive action on the embryo of repeated injections of cholin in gravid rabbits. The results resemble those observed under the influence of *x*-ray exposures of gravid rabbits, and are cited as striking arguments in favor of the assumption that the biologic action of the rays can be imitated by chemical means.

94. **Treatment of Bladder Wound After High Incision.**—Baratynski reports the details of 4 cases to sustain his views that the wound in the bladder should be sutured at once after a high incision for stone in case the urine is normal and the mucosa of the bladder is healthy. This should also be done when the urine is comparatively normal, with a neutral or slightly alkaline reaction, and even in case of mild cystitis, on condition that the latter receives thorough systematic treatment. The bladder wound, however, should be left open in all cases of pronounced cystitis and with alkaline urine.

97. **Primary Tuberculosis and Anthracosis of the Lungs and Bronchial Glands.**—Ribbert argues that anthracotic foci in the lungs and anthracotic indurated bronchial glands are the terminal stages of healed tuberculous processes. He also affirms that they must be the result of air-borne inhaled infection. He is convinced that the overwhelming majority of human beings are infected at some time with tuberculosis, but that only in the predisposed does it develop into a serious affection. The majority recover and become comparatively immune.

98. **Differential Diagnosis of Metastatic and Otitic Abscesses in the Brain.**—In the case reported a young man with chronic otitis media for seven years and a gonorrheal bronchial affection for four years exhibited signs of an abscess in the brain. It was assumed to be in the temporal lobe, but no pus could be found, and autopsy revealed the abscess in the vicinity of the central sulcus in the parietal lobe. Oberndörffer gives his reasons for assuming the abscess to have been of metastatic origin from the bronchial affection rather than from the otitis, especially the sudden onset of the symptoms, the afebrile course and the sudden appearance of contractions in the left arm, followed by paresis of the arm and leg on this side. These symptoms appeared before there were any signs of compression of the brain. Comparatively little attention was paid to these motor symptoms as they were not very pronounced, and there was no characteristic progression of the spasmodic contractions. The paresis in this case and the lack of involvement of the facialis might suggest a lesion of the internal capsule. Another misleading symptom in the case was the paralysis of the ocular muscles, a frequent accompaniment of otitic abscesses in the frontal lobe.

99. **Roentgen Treatment of Mediastinal Tumors.**—Elischer describes 3 patients with mediastinal tumors much benefited by Roentgen exposures. A fourth case proved refractory. He urges Roentgen treatment in all such cases, as the improvement sometimes approximates an actual cure, although always more or less temporary. Pure malignant lymphoma proved most amenable to the rays in his experience, much more than tuberculous hyperplasia of the glands and lymphosarcoma.

101. **Gallstone Ileus.**—Hermes reports 3 cases which illustrate the freakishness of gallstone affections. The patients were men or women in the seventies, two without any history of gallstone or gastrointestinal trouble. In one case the intestine was found ulcerated and necrotic with several perforations and the patient succumbed soon after the operation. The rapid development of these ulcerations, the first symptoms having been observed only three days before death, warns against too prolonged expectant treatment in such cases.

102. **Kuhn's Peroral Intubation.**—Kuhn's method of administering the anesthetic through a tube reaching into the trachea has been duly described in these columns. Dirk has used it in seven severe operations on the head. The operator is rendered entirely independent of the anesthetist. There is none of the coughing, strangling or retching observed with other modes of anesthesia. Asphyxia need not be feared, as the upper air passages are always free, and no blood can flow into the larynx or esophagus. No bronchitis or pneumonia was observed afterward, and the anesthesia proceeded even and continuous without the usual ups and downs.

### Jahrbuch f. Kinderheilkunde, Berlin.

*Last indexed, page 1063.*

105 (LXIV, Supplementary No.) Residual Nitrogen of Human Milk.—Ueber den Reststickstoff der Frauenmilch. H. Rietschel.
106 Digestion of Albumin in Infant's Stomach.—Die Eiweissverdauung im Magen des Säuglings. L. Langstein.
107. Eiweissabbau und-aufbau bei natürlicher und künstlicher Ernährung (albumin metabolism). Id.
108 Zur Kenntnis der stickstoffhaltigen Bestandteile der Säuglingsfäzes (nitrogenous constituents of infant's feces). H. M. Adler (New York).
109 Die Fettspaltung im Magen des Säuglings (splitting of fat in infant's stomach). J. Parker Sedgwick (Minneapolis).
110 Die physiologische Bedeutung und der klinische Wert der Ehrlichschen Dimethylaminobenzaldehyd-Reaktion im Kindesalter (in children). A. Bookman (New York).
111 Zur Kenntnis der Beschaffenheit des Urins bei der Rachitis. L. Baumann (New York).
112 Ueber den Wert orthodiagraphischer Herzuntersuchungen bei Kindern (the heart in children). P. Reyher.

### Münchener medizinische Wochenschrift.

113 (LIII, No. 34.) *Ueber Pessar-Behandlung (pessaries). M. Hofmeier.
114 Neutrophile Findings in Infant's Blood.—Das neutrophile Blutbild beim natürlich und beim künstlich ernährten Säugling, Esser.
115 Bile as Culture Medium for Typhoid Bacillus.—Ueber Züchtung von Typhusbazillen aus dem Blut mittels der Gallenkultur. H. Conradi.
116 *Passive Congestion in Treatment of Suppurative Ear Affections.—Die Stauungshyperämie bei der Behandlung von Ohreiterungen. Hasslauer.
117 *Peroxid of Hydrogen Test of Sputa.—Ein Sedimentierungsverfahren des Auswurfs mit Wasserstoffsuperoxyd. Sachs.
118 Ein neues Instrumentarium für Lumbalanästhesie. B. R. v. Arlt.
119 Ein Apparat zur schnellen und beinahe kostenlosen Beschaffung von sterilem Verband- und Tamponade-Material. A. Schmidt.
120 *Die Prognose und Therapie der Cholelithiasis im Lichte der Statistik und Erfahrung. A. Ritter. (Concluded).
121 Zur Physiologie und Pathologie der vertikalen Blick-Bewegungen (movements of eyes). H. Steinert and A. Bielschowsky.
122 Tasks of Historian of Medicine.—Theodor Puschmann und die Aufgaben der Geschichte der Medizin. K. Sudhoff.
123 (No. 35.) Alkohol und Neurosen. L. Loewenfeld.
124 Studien mit einem neuen Hemmungskörper (new inhibiting body). W. Weichardt.
125 *Giebt es einen intestinalen Ursprung der Lungen-Anthrakose (possibility of intestinal origin). W. H. Schultze.
126 *Importance of Intramuscular Nerve Tracts in Tendon Grafting.—Der Verlauf der intramuskulären Nervenbahnen und seine Bedeutung für die Sehnenplastik. A. Wollenberg.
127 *Zur Frage der Heilbarkeit und der Therapie der tuberkulösen Meningitis. G. Riebold.
128 Ueber das Vorkommen von Netzhautblutungen bei Miliar-Tuberkulose (retinal hemorrhages). H. Marx.
129 Epidemic Cerebrospinal Meningitis.—Ueber 7 Fälle von epidemischer Genickstarre im niederrheinischen Industriabezirk. E. Krober. Die Genickstarre beim 1. Train-Bataillon München, Dieudonné. Wöscher and Würdinger.
130 Epileptiforme Krämpfe bei Diabetes mellitus. A. Stauder.
131 Der Alkoholismus in München (Munich). Vocke.

113. **Pessaries.**—Hofmeier regards the pessary as a necessary evil under certain conditions, but says that a hard, smooth surface is indispensable, that the woman should be re-examined every five months and oftener at first, and that the vagina should be frequently rinsed with salt water or a weak disinfectant. It is not necessary to have this done daily, but it should be done often. The wearer of a pessary must be

thoroughly impressed with the possible evil consequences if she does not present herself for examination at stated intervals.

116. **Artificially Induced Hyperemia in Treatment of Suppuration of the Ear.**—Hasslauer reports extensive experience with Bier's technic, his opinion being that it represents a decided progress in the treatment of suppurative affections of the ear.

117. **Peroxid of Hydrogen in Examination of Sputum.**—Sachs-Müke states that neither peroxid of hydrogen nor a 1 per 1,000 solution of corrosive sublimate interferes with the examination of sputum. He preserves the entire day's output of sputum for examination. It is treated with peroxid of hydrogen, which loosens up the mass completely, and it is then disinfected with the sublimate solution. The whole can then be safely kept for examination, the sediment containing the essential elements of the sputum. No further neutralizing or boiling is required.

120. **Prognosis and Treatment of Gallstone Affections.**—Ritter is in favor of internal treatment of gallstone affections, and cites an array of statistics from Erlangen and Munich which show that the mortality is actually higher now in these operative days than it was when internal treatment and Carlsbad water were the mainstays. A little oil or fat in the course of a rational diet is generally beneficial, probably mostly from its effect on the generally accompanying constipation and on the frequent hyperacidity. The various remedies vaunted on all sides have one favorable point in common—they gain time. Time is the great healer, but its beneficent effects are frequently ascribed to the remedy the patient happens to be taking at the moment.

125. **Possibility of Intestinal Origin of Anthracosis of the Lungs.**—Schultze has been repeating the experiments of Calmette and his assistants at Lille in regard to the depositing in the lungs of particles of charcoal, etc., ingested by the mouth. His results disprove their conclusions *in toto*, he asserts. While the charcoal, etc., was being mixed with the food, the animals must have inhaled enough particles to account for the deposits in their lungs. In his exoeriments, insoluble particles fed to the animals were found distributed through all the organs, never restricted to the lungs; in fact, the lungs contained less than the spleen and liver.

126. **Importance of Intramuscular Nerve Tracts in Tendon Transplantation.**—Wollenberg ascribes to the severing and other interference with the continuity of the intramuscular nerve tracts the variability in the results obtained in tendon transplantation. The nerves follow the same course as the vessels, generally intimately interwoven with them, and in very few muscles is the direction parallel with the longitudinal axis of the muscle. In most of the muscles the nerves and vessels run across the muscle, and consequently when a slice is taken off for transplantation, numerous nerves and vessels are injured. He gives illustrations of the transverse nerve tracts in the biceps femoris and of the longitudinal nerve tracts in the gracilis muscle. The practical conclusions of his research are that in slitting a muscle for transplantation, the part cut off must not be too small, except possibly in those muscles in which the main nerve tracts are parallel to the longitudinal axis, and, further, that the muscle should not be slit higher than the middle of its belly.

127. **Curability and Treatment of Tuberculous Meningitis.**—Riebold reports a case of severe tuberculous meningitis with a favorable termination in the course of two or three months. The patient was a girl of 16 and tubercle bacilli were found in the cerebrospinal fluid. Treatment included lumbar punctures, repeated 24 times, daily during the first two weeks. A total of 574 c.c. of cerebrospinal fluid was thus removed. The syndrome was typical, plus marked disturbances in speech, probably due to local compression by the meningeal effusion, especially in the left fissure of Sylvius. In every instance the general condition improved remarkably after each lumbar puncture. Riebold thinks that the punctures should be repeated every day so long as the pressure is over 25 to 30 cm. water, so long as 25 or 30 c.c. of cerebrospinal fluid still escape with a terminal pressure of from 10 to 12 cm., and so long as symptoms indicate pressure on the brain, headache, etc. In a second case the patient, a lad of 7, was treated with 11 punctures, about 355 c.c. of cerebrospinal fluid being thus withdrawn, under a pressure of from 27 to 45 cm. The patient seemed to be much improved by the fifth and sixth punctures, but after this his condition grew rapidly worse and he succumbed at the end of the third week. Autopsy showed tuberculous infiltrates of the soft membrane, as thick as 0.5 cm., almost exclusively localized in the vicinity of the hypophysis and of the fissure of Sylvius. The tuberculous process seems to have been concentrated at this point and developed there with great intensity. As a rule, the patient dies before the infiltrates have reached this stage.

## Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A PRIMER OF PSYCHOLOGY AND MENTAL DISEASE. For Use in Training Schools for Attendants and Nurses and in Medical Classes, and as a Ready Reference for the Practitioner. By C. B. Burr, M.D., Medical Director of Oak Grove Hospital (Flint, Mich.) for Mental and Nervous Diseases, etc. Third edition, thoroughly revised. Cloth. Pp. 183. Price, $1.25 net. Philadelphia: F. A. Davis & Co., 1906.

TEXT-BOOK OF COMPARATIVE GENERAL PATHOLOGY for Practitioners and Students of Veterinary Medicine. By Prof. Dr. Th. Kitt, of Munich. Authorized Translation by Dr. William W. Cadbury, Assistant Demonstrator of Pathology in the University of Pennsylvania. Illustrated with 4 colored plates and 131 illustrations. Cloth. Pp. 471. Price, $5.25 net. Chicago: W. T. Keener & Co., 1906.

THE EAR AND ITS DISEASES, a Text-book for Students and Physicians. By S. S. Bishop, B.S., M.D., LL.D., Honorary President of the Faculty and Professor of Diseases of the Nose, Throat and Ear in the Illinois Medical College, etc. Illustrated with 27 colored lithographs and 200 additional illustratios. Cloth. Pp. 439. Price, $4.00 net. Philadelphia: F. A. Davis & Co., 1906.

A TREATISE ON THE MOTOR APPARATUS OF THE EYES, Embracing an Exposition of the Anomalies of the Ocular Adjustments and Their Treatment with the Anatomy and Physiology of the Muscles and Their Accessories. By G. T. Stevens, M.D., Ph.D. Illustrated with 184 engravings, some in colors. Cloth. Pp. 496. Price, $4.50 net. Philadelphia: F. A. Davis & Co., 1906.

RETINOSCOPY (or Shadow Test) in the Determination of Refraction at One Meter Distance, with the Plane Mirror. By J. Thorington, A.M., M.D., Author of "Refraction and How to Refract," etc., Fifth edition, revised and enlarged, with fifty-four illustrations, ten of which are colored. Cloth. Pp. 67. Price, $1.00 net. Philadelphia: P. Blakiston's Son & Co., 1907.

ATLAS OF CUTANEOUS MORBID HISTOLOGY, Consisting of Fifty-three Colored Figures on Twenty-Four Plates and Text. By Dr. Max Joseph, Physician for Skin Diseases in Berlin, and J. B. Van Deventer, Oberstabsarzt of the Netherlands East Indian Army in Batavia-Java. Cloth. Pp. 48. Price, $5.00 net. Chicago: W. T. Keener & Co., 1906.

RECENT ADVANCES IN THE PHYSIOLOGY OF DIGESTION. Delivered in the Michaelmas Term, 1905, in the Physiological Department of University College, London. By E. H. Starling, M.D., F.R.S., Jodrell Professor of Physiology. With twelve illustrations. Cloth. Pp. 156. Price, $2.00 net. Chicago: W. T. Keener & Co., 1906.

ESSENTIALS OF HUMAN PHYSIOLOGY. By D. N. Paton, M.D., B.Sc., F.R.C.P., Ed., Superintendent of the Research Laboratory of the Royal College of Physicians of Edinburgh. Second edition, revised and enlarged. Cloth. Pp. 444. Price, $2.75 net. Chicago: W. T. Keener & Co., 1905.

A HISTORY OF THE BOSTON CITY HOSPITAL, from Its Foundation Until 1904. Authorized by the Trustees and Edited by a Committee of the Hospital Staff, David W. Cheever, M.D., George W. Gay, M.D., and others. Cloth. Pp. 422. Boston: Municipal Printing Office, 1906.

PRACTICAL TEXT-BOOK OF MIDWIFERY FOR NURSES. By R. Jardine, M.D., M.R.C.S., F.F.P., and S., F.R.S., Professor of Midwifery in St. Mungo's College, Glasgow, etc. Third edition. Cloth. Pp. 276. Price, $1.50 net. Chicago: W. T. Keener & Co., 1906.

ESSENTIALS OF MEDICAL ELECTRICITY. By E. R. Morton, M.D., C.M., Trinity University Toronto, with eleven plates and seventy illustrations. Cloth. Pp. 192. Price, $1.50 net. Chicago: W. T. Keener & Co., 1905.

STUDIES IN THE PSYCHOLOGY OF SEX. Erotic Symbolism, the Mechanism of Detumescence, The Psychic State in Pregnancy. By H. Ellis. Cloth. Pp. 285. Price, $2.00 net. Philadelphia: F. A. Davis & Co., 1906.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA (State Board of Health). Organized 1847—meeting of 1906. Cloth. Pp. 688. Montgomery, Ala.: Brown Printing Co., 1906.

COOK COUNTY CHARITY SERVICE, Fiscal Year, 1905. Description of New Court House, Annual Message of President, Board of Commissioners, and Reports of Departments. Paper. Pp. 127.

THIRTY-SEVENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. Public Document. No. 34. Cloth. Pp. 626. Boston: Wright & Potter Printing Co., 1906.